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THE UNIVERSITY OF ALBERTA

RURAL SCHOOL ADMINISTRATION COSTS  
IN ALBERTA

by

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A THESIS  
SUBMITTED TO  
THE FACULTY OF GRADUATE STUDIES  
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## ABSTRACT

This study was designed to determine the costs of services of certificated administrative personnel employed by or associated with ten rural school divisions or counties in Alberta. No study existed in which this particular aspect of administration costs had been analyzed. The need for such a study was evident from the increasing number of administrators employed in multi-roomed schools. School authorities were increasingly using their discretionary power to appoint administrative personnel whose services were not mandatory by the terms of provincial legislation.

School divisions and counties included in this study were selected through a structured sampling procedure based upon criteria of enrolments and assessments.

Data were obtained from primary sources: the files of school authorities and of the Department of Education. Information was obtained on principals, vice-principals and supervisors in the employ of the school divisions or counties. Such information included the salary, qualifications and number of class periods per week devoted to administration. The salary and expenses of the provincially-appointed superintendents of schools were obtained from the department files.

First, costs of administration attributable to administrative personnel during 1962 were determined. Second, the portion of the total costs paid by the province and the portion paid by the local area were also determined. Third, differences in costs were studied



in relation to the two criteria. Analyses showed that little relationship existed among total costs, per-pupil costs and an area's "ability to pay"; nor was total enrolment of a unit a strong apparent factor in this regard.

Costs were further analysed in an effort to explain variations. The salary schedule, size and type of school, qualifications of administrators, time for administrative duties, and the number of administrative staff employed were studied to determine influences upon costs. Of the five cost factors considered, the 1962 salary schedules and the qualifications of the administrative staff employed were considered the least significant in explaining the variations in per-pupil costs which existed among schools and school authorities. Sizes and types of schools did relate to differences in costs. Elementary and elementary-junior high schools were the least expensive and high schools were most expensive in terms of administrative services. Schools employing two to seven teachers were the least expensive. Schools in the size range of thirteen to seventeen teachers were the most expensive. As schools increased beyond the twenty-two teacher size, per-pupil costs of administration decreased. Finally, the writer concluded, the amount of time allowed for administrative duties and the number of administrators employed also proved significant in explaining the variations in per-pupil costs.





## ACKNOWLEDGEMENTS

The writer wishes to acknowledge the assistance rendered by the secretary-treasurers and superintendents of the school divisions and counties who provided access to the school authority's files.

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The assistance and direction of Dr. G. L. Mowat, Dr. F. Enns and Dr. L. D. Nelson, is acknowledged.

Lastly, the writer wishes to acknowledge the patience, encouragement and understanding of his wife, Elizabeth, during the period of his completing this study.



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THEORY OF THE EARTH AND ITS HISTORY

1. The Earth is a sphere, and its surface is covered by water and land.
2. The land is divided into continents and islands.
3. The water is divided into oceans, seas, and lakes.
4. The atmosphere is the layer of gas surrounding the Earth.
5. The atmosphere is composed of various gases, including oxygen and nitrogen.
6. The atmosphere protects the Earth from harmful solar radiation.
7. The atmosphere also helps to regulate the Earth's temperature.
8. The atmosphere is essential for life on Earth.
9. The atmosphere is constantly changing and evolving.
10. The atmosphere is a complex system that interacts with the other components of the Earth's system.
11. The atmosphere is a dynamic system that is constantly in motion.
12. The atmosphere is a system that is constantly being studied and researched.
13. The atmosphere is a system that is constantly being improved and protected.
14. The atmosphere is a system that is constantly being used and enjoyed.
15. The atmosphere is a system that is constantly being loved and cherished.
16. The atmosphere is a system that is constantly being appreciated and valued.
17. The atmosphere is a system that is constantly being respected and honored.
18. The atmosphere is a system that is constantly being revered and worshiped.
19. The atmosphere is a system that is constantly being glorified and praised.
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- 2. The second is the fact that the...
- 3. The third is the fact that the...
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- 5. The fifth is the fact that the...
- 6. The sixth is the fact that the...
- 7. The seventh is the fact that the...
- 8. The eighth is the fact that the...
- 9. The ninth is the fact that the...
- 10. The tenth is the fact that the...
- 11. The eleventh is the fact that the...
- 12. The twelfth is the fact that the...
- 13. The thirteenth is the fact that the...
- 14. The fourteenth is the fact that the...
- 15. The fifteenth is the fact that the...
- 16. The sixteenth is the fact that the...
- 17. The seventeenth is the fact that the...
- 18. The eighteenth is the fact that the...
- 19. The nineteenth is the fact that the...
- 20. The twentieth is the fact that the...

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## CHAPTER I

### INTRODUCTION

#### I. THE PROBLEM

This study was designed to determine the total costs of the administrative services of certificated personnel in the employ of, or associated with, ten selected school divisions and counties in Alberta. The costs included the actual administrative allowance received by each locally-employed administrator. Further, the basic salary was pro-rated to determine the amount of the basic salary which was an administrative cost as distinct from an instructional cost. The sum of these determined the actual administrative cost for each locally employed administrator.

In addition to the locally employed administrative personnel, each school division or county was provided with the services of a provincially-appointed superintendent of schools. The salary and travelling expenses of this person constituted an administrative cost considered in this study.

#### II. STATEMENT OF SUB-PROBLEMS

The following sub-problems were investigated during the study:

1. What is the total cost of administrative services of certificated personnel in the selected school divisions and counties?
2. What is the administrative cost per pupil in each of the selected school units?



3. What are the apparent cost trends in relation to size and ability to pay?

4. How are the administrative costs of certificated personnel shared by the school division or county and the province?

5. What factors affected administrative costs?

### III. NEED FOR THE STUDY

No other study on this aspect of school finance exists in Alberta. This is a descriptive, rather than a comparative or analytical, study of the costs of certificated administrative personnel.

Administration is a recognized item of support under Alberta Department of Education regulations.<sup>1</sup> A specified level of support to the local school authority is guaranteed by the province. Financial statements used by school divisions recognize administration as an expenditure, including the following items:

- Secretary-Treasurer
- Assistants
- Auditors
- Attendance Officers
- Elections and Annual Meetings
- Trustees' Expenses
- Local Trustees and Secretaries
- Office Rent, Fuel, Phone, Etc.
- Office Supplies, Postage, Stationery
- Other Administration<sup>2</sup>

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<sup>1</sup>Department of Education, "School Foundation Program Regulations", Edmonton, Alberta; January 1962, Part E, (mineographed).

<sup>2</sup>Department of Education, "Auditor's Financial Statement, Form EG-23-1800", Edmonton, Alberta, p. 4.



However, the administrative cost arising from the employed certificated administrators is a charge to "Instruction" under the heading, Teachers' Salaries. Similarly, the item, Supervisors' Salaries and Expenses, is charged to "Instruction."<sup>3</sup>

An examination of school division financial statements reveals that an administrative cost arising from certificated administrative personnel is presently not classified as such. Stated another way, the auditor's financial statement does not truly report the costs of administration. In addition, the salary and travelling expenses of the provincially appointed superintendent of schools, properly an administrative cost in the rural school division or county, is being borne by the Province of Alberta.

A further need for the study becomes evident from provincial legislation.<sup>4</sup> Certificated administrators may be divided into two categories, those whose services are mandatory and those whose services are permissive under The School Act. The services of principals and vice-principals are mandatory. When two or more teachers are employed to teach in the same school, one must be appointed principal. When eight or more teachers are employed to teach in the same school, a second teacher must be designated as vice-principal.<sup>5</sup>

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<sup>3</sup>Ibid.

<sup>4</sup>R.S.A., 1955, Chapter 297.

<sup>5</sup>Ibid., Section 370.





The services of the provincially-appointed superintendent of schools are also mandatory.<sup>6</sup> The superintendent's responsibilities are defined by The School Act.<sup>7</sup> The costs of his service, although borne by the Alberta Department of Education, nevertheless represent a local service, the cost of which is borne by the central government. Therefore, the cost of the school superintendent's service must be included as a cost of administering the local school system.

Permissive legislation exists for school authorities to employ a teacher in an administrative or supervisory position.<sup>8</sup> School divisions and counties have employed such teachers and have designated them as assistant superintendents, subject co-ordinators or supervisors, area supervisors, or heads of departments. The administrative duties of such personnel may be limited to one school or they may apply to all of the schools within a system. A teacher who serves a school as a full or part-time librarian has been classified within this category for the purpose of this study.

The statistics of the Department of Education indicate that this aspect of administrative cost should be accurately ascertained. During the period of ten school years, 1952-53 to 1961-62, the percentage of school districts in which schools operated decreased from 44.56 per cent in the school year 1952-53 to 17.49 per cent in 1961-62. The number of schools decreased from 2,036 to 1,416. However, for the same period of

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<sup>6</sup>Ibid., Section 198.

<sup>7</sup>Ibid., Section 186(b), 190(2)(c), 199, 334, 404(2).

<sup>8</sup>Ibid., Section 200.



time, the number of classrooms in operation increased from 6,552 to 11,285.<sup>9</sup> Enrolments increased from 189,081 to 312,689, and the number of teachers employed increased from 6,938 to 13,342.<sup>10</sup>

Two conclusions are drawn from these statistics. First, an increasing number of pupils are attending multi-roomed schools, and second, more teachers are teaching within multi-roomed schools - schools in which certificated administrative personnel must be employed.

Further statistics from the Department of Education indicate that school authorities are using their permissive right to employ teachers in an administrative or supervisory role. A study of the Annual Reports of the Department of Education reveals the following:

1. During 1958, twelve teachers were employed in this capacity.<sup>11</sup>
2. In 1959, three additional teachers were similarly employed.<sup>12</sup>
3. The number increased to twenty-one in 1960.<sup>13</sup>

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<sup>9</sup>Department of Education, Fifty-Seventh Annual Report of the Department of Education, Edmonton, Alberta; January, 1963, p. 194.

<sup>10</sup>Ibid., p. 213.

<sup>11</sup>Department of Education, Fifty-Third Annual Report of the Department of Education, Edmonton, Alberta; January, 1959, p. 28.

<sup>12</sup>Department of Education, Fifty-Fourth Annual Report of the Department of Education, Edmonton, Alberta; January, 1960, p. 26.

<sup>13</sup>Department of Education, Fifty-Fifth Annual Report of the Department of Education, Edmonton, Alberta; January, 1961, p. 26.



4. The number of teachers employed as supervisors was thirty-one in 1961.<sup>14</sup>

5. Thirty-seven such teachers were employed in 1962.<sup>15</sup>

These numbers do not include full or part-time librarians.

To summarize, legislation demands that administrative personnel be employed. More school authorities are using their prerogative to appoint additional administrative personnel. There is a need to know what the true administrative costs are so that they can be compared, analyzed and assessed. This study determines the cost of certificated administrative personnel, one factor of the total administrative costs within the selected school divisions and counties.

#### IV. DELIMITATION OF STUDY

1. This study was delimited to the costs of certificated administrative personnel in ten selected school divisions and counties in Alberta.

2. Ten school divisions and counties were selected by a structured sampling technique based upon assessment and number of pupils. The structured sampling technique is explained below. From the sample selected, generalizations are made with reference to all school authorities in that range of ability or need.

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<sup>14</sup>Department of Education, Fifty-Sixth Annual Report of the Department of Education, Edmonton, Alberta; January, 1962, p. 23.

<sup>15</sup>Department of Education, Fifty-Seventh Annual Report of the Department of Education, Edmonton, Alberta; January, 1963, p. 18.





3. The study was made for the fiscal year 1962.

#### V. SELECTION OF SCHOOL DIVISIONS AND COUNTIES

The structured sampling technique used to select the ten school divisions and counties was based upon two criteria, ability to pay and need. These two criteria correspond respectively to equalized assessment and number of pupils.

A sampling procedure was used in preference to a study of all the school divisions and counties in Alberta. The study of school authorities, carefully selected as to increasing need and ability to pay, is as representative of the Alberta scene as any study of all rural Alberta school divisions and counties can be. There is no correspondence between the number of pupils within rural school units, and the school units' ability to pay. The hypothesis was made that, when these two factors were controlled through careful selection, a more accurate finding would result because need and ability are more closely related.

The 1962 equalized assessments for the fifty-nine school divisions and counties were obtained from the Department of Education. These were ranked in ascending order of assessment and divided into deciles. The tenth decile contained five school divisions or counties. The rank order and deciles are presented in Appendix A, page 66.

Enrolments were obtained from the statistics of the Department of Education.<sup>16</sup> These enrolments were arranged in ascending order and

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<sup>16</sup>Ibid., p. 113.





divided into deciles. The complete data are presented in Appendix B, page 68. The combination of Appendices A and B is included in Appendix C, page 70. In each case the ascending order of decile, the number indicates an increasing need or an increasing ability to pay.

When only one school authority fell in the same decile on both criteria, it was chosen as being representative of the school authorities in that range of ability and need. On this basis, representative school authorities from the fourth, fifth, eighth and ninth deciles were chosen. The first, sixth and tenth deciles included more than one school authority which could have been chosen. To determine the representatives of these deciles, the school authority with the largest number of pupils was chosen with the exception of the tenth decile. In this case, the school authority with the largest number of pupils is more suburban than rural. In the second, third, and seventh deciles, no school authorities fell in the categories indicated by both criteria. In these cases the primary criterion for selection was the number of pupils because the need of administrative personnel is more closely related to number of pupils than it is to assessment. All school units included in these three deciles were compared to the next deciles in assessment. Those with the closest rank number were chosen as representative of the second, third and seventh deciles.

Table I shows the school divisions and counties selected through the structured sampling technique. The decile number for the criterion, the number of pupils, is in regular counting order. Similarly, the rank number increases for each representative school authority. Stated another way, the number of pupils became the basic criterion in



TABLE I  
SELECTED SCHOOL AUTHORITIES

School Division or County Number	<u>Number of Pupils</u>		<u>Equalized Assessment</u>	
	Decile No.	Rank No.	Decile No.	Rank No.
S.D. 54	I	6	I	4
S.D. 4	II	10	III	18
S.D. 29	III	13	V	27
C. 7	IV	21	IV	21
S.D. 21	V	27	V	29
C. 9	VI	36	VI	35
S.D. 19	VII	37	VIII	43
S.D. 20	VIII	45	VIII	45
C. 17	IX	54	IX	54
S.D. 35	X	58	X	57



selecting the school authorities. The decile number and rank number under equalized assessment, when compared to the equivalent figures under number of pupils, shows the deviations made in selection. The rank number of equalized assessment increases for each school authority selected with the exception of the representatives for deciles three and four. Through the structured sampling technique such representative school divisions and counties were chosen that when need increased, assessment increased. The exceptions, the representatives for deciles three and four, have already been noted.

In future references to a decile within this study, the decile number referred to is that arising from the criterion, the number of pupils. Further, the school authority representative of a particular decile will be referred to by the decile number.

## VI. DEFINITION OF TERMS

1. A school division is defined as a school authority organized and governed in accordance with The School Act.<sup>17</sup> The governing body, the board of trustees, is autonomous and controls education in the area. The board of trustees constitutes a single purpose government.

2. A county is defined as a school authority formed and established in accordance with The County Act.<sup>18</sup> The governing body, the

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<sup>17</sup>R.S.A., 1955, Chapter 297.

<sup>18</sup>R.S.A., 1955, Chapter 64.





county council, controls not only education, but also municipal affairs. The county council is a multi-purpose government.

3. A certificated person is a teacher as defined by The School Act.<sup>19</sup>

4. A principal or vice-principal is a certificated administrator as appointed in accordance with The School Act.<sup>20</sup>

5. A superintendent of schools is a certificated administrator appointed by the Minister of Education.<sup>21</sup>

6. A supervisor is a certificated administrative person appointed in accordance with The School Act.<sup>22</sup> He may discharge his supervisory responsibility within a particular school, or within the schools of a system. For the purpose of this study a full or part-time librarian is classified as a supervisor.

7. Basic salary is defined as the salary entitlement of an administrator as if he were a teacher in accordance with the salary agreement of that particular school division or county.

8. Administrative allowance is defined as entitlement for administrative services in accordance with the salary agreement in effect.

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<sup>19</sup>The School Act, op. cit., section 2(bb).

<sup>20</sup>Ibid., Section 370.

<sup>21</sup>Ibid., Section 2(aa).

<sup>22</sup>Ibid., Section 371(a).



## CHAPTER II

### COLLECTION AND TREATMENT OF DATA

#### I. DATA REQUIRED

To ensure accuracy the data were collected from primary sources.

Each school authority was visited and the certificated administrative personnel were identified by examining the payroll for the school years, 1961-62 and 1962-63. This was necessary because:

1. Two or more administrators may have been employed for one administrative position during the fiscal year of 1962, and,
2. Basic salary and administrative allowance may have changed for each of the school terms; that is, for the period of January 1 to August 31, and the period of September 1 to December 31, 1962.\*

The following data were collected on each person identified:

1. The administrative allowance paid to each administrator for each school term.
2. The basic salary paid to each administrator for each school term.
3. The amount of travelling and other administrative allowances paid to each person.

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\* The School Act, Section 377(2) defines the school terms as the period from January 1 to June 30 and from July 1 to December 31. Since changes in salary schedules are effective on September 1, the school terms are defined as above, for the purpose of this study.



4. The number of credits taught during each school term. This information was obtained from the Form A cards for the school years 1961-62 and 1962-63.<sup>1</sup> In some cases, particularly for principals and vice-principals of elementary schools, the time spent on instruction could not be determined from the Form A cards. In these cases, the superintendent or secretary-treasurer was asked to determine the amount of teaching duties of each administrator. This information was required to pro-rate the basic salary.<sup>2</sup>

5. Personal data including age, years of professional training, years of experience, and length of time employed in the particular administrative capacity.

6. The number of pupils attending and the number of teachers employed at each school. This information was taken from the 1962-63 Form A cards.

The analysis sheet used to gather the data on employed administrative personnel is included as Appendix D, page 72.

The data on the provincially-appointed superintendent of schools were obtained from the Department of Education. Permission was obtained from the Chief Superintendent of Schools to examine the diaries and expense accounts submitted by each of the ten superintendents. The diaries submitted indicated the total number of days worked, the schools

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<sup>1</sup>Department of Education, "Form A, 1961-62 and 1962-63," Edmonton, Alberta.

<sup>2</sup>Infra., p. 17.





visited and other duties performed. The expense accounts also list the schools visited, the mileage and other expenses incurred. As a result, the amount of time spent in administering the school division or county was accurately ascertained.

From the Department of Education the following data were obtained:

1. The salary received during 1962.
2. The number of days worked each month and the total for the year.
3. The number of days worked to discharge Department of Education duties which were not considered as an administrative cost to the school division or county. These duties included visits to schools or to school boards not within the division or county as well as attendance at conventions or Department of Education meetings such as curriculum meetings.
4. The total expenses charged to the Department of Education each month and for the fiscal year, 1962.
5. The expenses arising from Department of Education duties.

In addition to this, the secretary-treasurer of the school division or county provided the administrative costs charged by the superintendent of schools to the local school authority.

The analysis sheets used to determine the administrative cost of the provincially-appointed superintendents of schools are included as Appendix E, page 75.





## II. TREATMENT OF DATA ON LOCALLY EMPLOYED ADMINISTRATIVE PERSONNEL

Each school within each authority was identified by a letter of the alphabet. Each administrator employed by the particular school division or county was assigned the identifying school letter as well as consecutive numerals. Thus if school "A" of a division employed three people in an administrative capacity during 1962, these three administrators were identified as "A1", "A2" and "A3". If one administrator was employed for school "B", this person was identified as "B4".

The number of administrative personnel employed by the school authorities, as well as the number of schools, is shown in Table II. A total of seventy-three schools were studied. Eighty-three persons were identified as principals, sixty-five as vice-principals, twenty as supervisors within a school, and five as supervisors within their respective school systems. Four school authorities chose to appoint additional supervisory or administrative personnel. Of these, two appointed supervisors within the school as well as within the system.

### Administrative Allowance

As was indicated earlier two administrators may have been employed for one position during the year 1962; moreover, the administrative allowance payable under the terms of the collective salary agreement was found to vary from the June to the September term in some schools.

In either case the administrative allowance was determined on the following basis:

THE HISTORY OF THE  
CITY OF NEW YORK

The city of New York, situated on the eastern tip of Long Island, is one of the most important and populous cities in the United States. It is the center of commerce and industry for the entire Northeast, and its harbor is one of the busiest in the world. The city is divided into five boroughs: Manhattan, the Bronx, Richmond, Queens, and Kings. Each borough has its own unique character and history. Manhattan, the most densely populated borough, is the heart of the city and is home to many of its most famous landmarks, including the Empire State Building and Central Park. The Bronx, located to the north, is known for its diverse population and its role in the city's history. Richmond, Queens, and Kings, located to the south and east, are also important parts of the city and have their own distinct identities. The city's history is rich and varied, with a long and storied past that has shaped it into the city it is today.

CHAPTER I  
THE EARLY HISTORY

The early history of the city of New York is a story of exploration, discovery, and settlement. The first Europeans to arrive in the area were the Dutch, who established a trading post in 1614. The Dutch were followed by the English, who took control of the city in 1664. The city's history is marked by a series of events, including the Dutch Revolution, the English Revolution, and the American Revolution. The city's role in the American Revolution was particularly significant, as it was the site of the Battle of Red Bank and the signing of the Declaration of Independence. The city's history is a testament to the resilience and spirit of its people, who have overcome many challenges and built a city that is one of the most important and populous in the world.

TABLE II

NUMBER OF SCHOOLS, DISTRIBUTION AND TOTAL OF ADMINISTRATIVE PERSONNEL  
EMPLOYED IN THE SELECTED SCHOOL DIVISIONS OR COUNTIES

Decile	No. of Schools	No. of Principals	No. of Vice Principals	No. of Supervisors in Schools	No. of Supervisors in System	Total No. of Administ- rative Personnel
I	5	5	4	0	0	9
II	10	14	4	0	0	18
III	3	3	5	0	0	8
IV	4	4	5	0	0	9
V	7	8	7	0	0	15
VI	6	7	6	6	1	20
VII	8	9*	9	0	2*	19
VIII	12	13	10	2	1	26
IX	9	10	8	0	0	18
X	9	10	7	12	1	30
TOTALS	73	83	65	20	5	172

\* One principal also had general administrative duties within the division.



1. For the June term, two-thirds of the year's administrative allowance was charged as an administrative cost.

2. For the December term, one-third of the year's administrative allowance was charged.

### Pro-Rating Basic Salary

The data gathered showed that a different basic salary was paid in the June and December terms. The administrator may also have taught a different number of class periods in each of the two terms.

High school regulations for Alberta indicate that the normal high school week consists of forty instructional periods, each of forty minutes duration. Each instructional period is equated to one high school credit.<sup>3</sup> The following basic assumption was made: that the time for administrative duties could be determined by subtracting the number of credits the administrator taught from forty.

To pro-rate the basic salaries, the following formulae were used:

1. For the June term,  $\frac{2B(40 - P.I.)}{3 \cdot 40}$ , meaning two-thirds times the basic salary, times (forty minus the periods of instruction) divided by forty.

2. For the December term,  $\frac{B(40 - P.I.)}{3 \cdot 40}$ , meaning one-third times the basic salary times (forty minus periods of instruction) divided by forty. The sum of the two products obtained was the administrative

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<sup>3</sup>Department of Education, "High School Handbook," Edmonton, Alberta, 1962.







portion of the salary as distinct from the instructional portion.

In some instances the time-table of the school indicated that the week had been divided into forty-five instructional periods. When this occurred the formulae were adjusted.

A similar procedure was used for the administrative personnel employed in elementary and junior high schools. The amount of administrative time for each administrator was obtained from the superintendent of schools.

#### Extra Administrative Allowances

Some of the school authorities paid a mileage allowance to principals for attendance at Principals' Association meetings. The practice varied. In some instances the money was paid to the person concerned, in others a lump sum was paid directly to the association. In the first instance this was a direct charge to the person's administrative cost. In the second, the extra administrative allowances were included in the division's or county's total administrative costs.

#### Total Administrative Costs

The total administrative cost for the person, for the school, and for the school authority is the sum of the above items.

The analysis sheets used to determine the total administrative cost per school, and for the school division or county, are included as Appendix F, page 75.



### III. TREATMENT OF DATA ON THE PROVINCIAL- EMPLOYED SUPERINTENDENT OF SCHOOLS

The salary of the provincially-appointed superintendents of schools was also pro-rated. The formula, (number of days on Department of Education duties) divided by (total number of days worked) times the salary for 1962, was used to determine that portion of the salary which was not an administrative cost to the school division or county. This amount was then subtracted from the salary for 1962. The remainder was considered as an administrative cost to the division or county.

The diaries submitted by the superintendents of schools to the Department of Education were carefully checked to determine the days on which the superintendent was performing duties not chargeable as an administrative cost to the school division or county. The expenses arising from these visits were deducted from the total expense account. The remainder was considered an administrative cost to the school division or county.

The amount of administrative expenses charged by a superintendent of schools to the division or county was obtained from the school authority's records.

The sum of the above items yielded the total administrative cost of each superintendent of schools. The compiled analysis sheets for each superintendent are included as Appendix G, page 87.



#### IV. TREATMENT OF DATA

After the initial compilation to determine the total costs of locally and provincially-employed administrative personnel, further analyses were performed.

Since the purpose of the study was to determine the actual administrative cost, tables were constructed to show:

1. The total costs of locally-employed administrative personnel.
2. The total costs of provincially-appointed administrative personnel.
3. The total costs of administration.
4. The administrative cost per pupil for each school authority.
5. The relationship between numbers of pupils, ability to pay, and cost per pupil.

These tables are included and discussed in Chapter III.

Certain variations in costs per pupil were very noticeable. The cost in the area having the highest per-pupil cost was double that of the areas having the lowest per-pupil costs. Factors such as size of school, type of school, number of administrative employees, administrative time and qualifications of the administrative staff were readily available from the data. These factors were analyzed and the summaries of the analyses are presented and discussed in tabular form in Chapter IV. Summary sheets are included in the appendices.





## CHAPTER III

### CERTIFICATED ADMINISTRATIVE PERSONNEL COSTS

This chapter reports the findings on the major problem of the study, namely, the determination of the actual administrative costs paid to certificated administrative personnel employed by or associated with the ten selected school divisions and counties. The unit or per-pupil costs are determined for each of the school authorities. This chapter also shows the percentages of the total of such administrative cost borne by the province and by the local school authority, respectively. Finally, the data were analyzed to determine if any relationship existed between the per-pupil cost and either the need or the ability to pay.

The findings related to problems stated above are discussed and summarized in tabular form. Tables III, IV and V indicate the amount of expenditure for locally-employed administrators as well as the costs of the provincially-employed superintendents of schools. Table VI shows the amount of local and provincial expenditures and the percentage that each is of the total. Table VII shows the per-pupil cost in each school authority.

In each table, the decile number is the number arrived at using the number of pupils as the criterion. The decile number refers to the school authority representative of that decile.



## I. THE COSTS OF LOCALLY-EMPLOYED ADMINISTRATIVE PERSONNEL

Table III summarizes the costs of locally-employed administrative personnel in the ten school divisions and counties.

The total of the administrative costs ranged from a low of \$15,355.62 in decile two to a high of \$86,398.42 for decile ten. The cost for principals ranged from a low of \$11,789.01 for decile one to \$40,279.92 for decile ten. The costs for vice-principals ranged from \$3,472.92 to \$25,279.60 for deciles two and nine respectively. The cost of supervisors in the four school authorities who chose to appoint such administrative personnel, ranged from \$5,979.27 to \$28,410.30 for deciles eight and ten respectively.

Generally, as the enrolment increased, the costs of principals and the total costs increased. An obvious reason for this was that as enrolment increases the need for administrative services increases and hence the greater total expenditure. However, the increase in expenditure was not consistent with the increase in enrolment. The representative for decile six was a notable exception. Although it was sixth in enrolment, it was ninth in actual expenditure, \$64,923.26. The highest total expenditure was \$86,398.42. However, the enrolment figures in Appendix B, page 68, show the enrolments as 2,404 for decile six and 4,208 for decile ten. The representatives of deciles two and five had a lower total cost than the representatives of decile one and four respectively. The schools of decile one are more centralized than the schools of decile two. Referring to Table II on page 16 and to the enrolments of Appendix B, page 68, decile one has five schools with a



TABLE III  
COSTS OF LOCALLY-EMPLOYED ADMINISTRATIVE PERSONNEL

Decile	Costs of Principals	Costs of Vice-Principals	Costs of Supervisors	Total
I	\$11,789.01	\$ 4,025.72	\$	\$ 15,994.73
II	11,823.70	3,472.92		15,355.62*
III	17,213.33	5,399.16		22,612.49
IV	22,532.12	11,682.70		34,414.82*
V	19,592.04	10,505.84		30,217.88*
VI	26,277.50	24,997.96	13,647.80	64,923.26
VII	28,597.16	12,561.58	6,541.58	47,700.32
VIII	31,022.48	13,322.17	5,979.27	50,323.92
IX	36,370.07	25,279.60		61,649.67
X	40,279.92	17,708.20	28,410.30	86,398.42
<b>TOTAL</b>	<b>\$ 245,497.33</b>	<b>\$ 129,135.85</b>	<b>\$ 54,578.95</b>	<b>\$ 429,591.13</b>

\* Note: These totals are not the sum of the first two totals but include a travelling allowance of \$59.00, \$200.00 and \$120.00 respectively for Deciles II, IV, and V (See p





total of 882 pupils while decile two has ten schools and an enrolment of 1,190. Similarly, decile four has four schools with an average enrolment of 437 while decile five has five schools with an average enrolment of 293.

As schools become more centralized the need for a second administrator, the vice-principal, becomes mandatory when eight teachers are employed for one school. Further, as schools become larger through centralization, the administrators receive more time for administrative duties. These factors explain why deciles one and four had a higher cost than deciles two and five respectively.

Very little uniformity exists with reference to increasing enrolments and the actual expenditures for the services of vice-principals. The representative for decile nine with an expenditure of \$25,279.60 is high, followed by decile six with an expenditure of \$24,997.96. The number of vice-principals was eight and six respectively as reported in Table II. The representative from decile nine employed eight vice-principals for five schools as did the representative from decile six. Since the school authority for decile nine did not employ supervisors, (the exception in the last five school authorities selected), it seems probable that the high expenditure for vice-principals explains the relative position (eighth) in total expenditure.

The representative for decile nine chose to place extra administrators within the school. The need for additional administrative personnel, as the schools and school system increased in size, was met by the appointment of three vice-principals whose services were not mandatory by legislation.



Decile six chose to appoint three vice-principals in addition to the legal requirement as well as a supervisor for the system. These factors explain this school representative's position in total expenditure.

## II. COSTS ATTRIBUTABLE TO PROVINCIALY-APPOINTED SUPERINTENDENTS OF SCHOOLS

Table IV shows the costs attributable to the services of the provincially-appointed superintendent of schools who was associated with each of the selected school authorities. The salary and expenses of the superintendent were pro-rated to show the costs which were properly chargeable as services in the school division or county. Table IV is a consolidation of the information in Appendix G, page 87.

Since the major purpose of this study was to determine the actual costs of certificated administrative personnel, pro-rating of salary and expenses was necessary. The total salary of the superintendents of schools ranged from \$8,540 to \$10,140 and was dependent upon the years of experience and on the number of teachers supervised.<sup>1</sup> The portion of the salary that was considered a charge to administration within the school authority ranged from \$6,819.49 to \$9,079.81. The school superintendents for deciles one and eight were not on maximum salary. The school superintendent of decile three had much of his

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<sup>1</sup>Superintendents of schools are classified for salary purposes into two categories, those who supervise under ninety-five teachers and those who supervise ninety-five or more teachers.



TABLE IV

## COSTS ATTRIBUTABLE TO PROVINCIALLY-APPOINTED SUPERINTENDENTS OF SCHOOLS

Decile	Pro-rated Salary	Pro-rated Expenses	Administrative charges to Division or County	Total
I	\$ 6,819.49	\$ 1,554.31	\$ 75.00	\$ 8,448.80
II	8,169.91	1,029.82	220.96	9,420.69
III	7,067.17	237.94	108.00	7,413.11
IV	8,280.99	439.34	112.40	8,832.73
V	8,381.64	698.04	199.44	9,279.12
VI	9,079.81	910.45	1,183.98	11,174.24
VII	7,777.96	799.82	265.00	8,842.78
VIII	8,828.25	1,071.90	39.74	9,939.89
IX	8,720.40	1,082.50	184.98	9,987.88
X	7,922.51	869.41	295.66	9,087.58
TOTAL	\$ 81,048.13	\$ 8,693.53	\$ 2,685.16	\$ 92,426.82





administrative duties in schools not included within the school division. Other variations depended upon the amount of administration performed for the Department of Education, such as inspecting city schools, attending curriculum meetings, or making school surveys.

Expenses paid by the Department of Education for administrative services within the school division or county varied from \$237.94 to \$1,554.31 in deciles three and one respectively. Two of three schools operated by decile three are within the town in which the superintendent resides. This explains the small expense chargeable to administration.

The superintendent associated with the school authority representative of decile one did not reside within the school division. As a result he had to travel a considerable distance to visit any of the schools in the school division. This explains the fact that expenses paid by the province represent the highest portion of the cost of local administration.

The administrative charges to a school division or county ranged from a low of \$39.74 in decile eight to a high of \$1,183.98 in decile six. These are the two notable deviations from the average. The costs of employing and interviewing teachers, investigations within the area, and other administrative duties directed by the school board or county council are usually charged directly to the school authority. However, practice was not specified. It was possible that the superintendent of decile six was directed by the county council to do such administrative detail. On the other hand, the superintendent of decile eight may have charged the majority of the expenses for this service directly to the



Department of Education.

### III. THE TOTAL ADMINISTRATIVE COSTS OF CERTIFICATED PERSONNEL

The combined costs, as well as the percentage of total costs borne by the local authority and the provincial government, are shown in Table V.

Total administrative expenditures tend to increase as the enrolment of the school authority increases. This trend was noted in the costs of administration of locally-employed administrators.<sup>2</sup> The relative positions of the school authorities' expenditures do not change from Table III on page 23 to Table V with the exception of the school authorities representing deciles one and two. Again the representative school authority of decile six was the notable exception. Its total expenditure was the second highest for all of the school authorities studied. The school authority for decile five had a power total expenditure than that of decile four.

The percentage of local costs increased from a low of 62.9 per cent of the total for decile two to a high of 90.8 per cent for decile nine with a corresponding decrease in the percentage of provincial cost. Generally, the trend was that as enrolment increased the percentage that local costs are of total costs also increased. The trend, however, was not consistent.

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<sup>2</sup>Supra., p. 23.



TABLE V

## TOTAL ADMINISTRATIVE COSTS OF CERTIFICATED PERSONNEL

Decile	Local		Provincial	
	(1) Expenditure	Percent of Total	(2) Expenditure	Percent of Total
				(3) Total Cost
I	\$ 16,069.73	65.7	\$ 8,373.80	34.3
II	15,576.58	62.9	9,199.73	37.1
III	22,720.49	75.7	7,305.11	24.3
IV	34,527.22	79.8	8,720.33	20.1
V	30,417.32	77.0	9,079.68	23.0
VI	66,107.24	86.9	9,990.26	13.1
VII	47,965.32	84.8	8,577.78	15.2
VIII	50,363.66	83.5	9,900.15	16.4
IX	61,834.65	86.3	9,802.90	13.7
X	86,694.11	90.8	8,791.92	9.2
TOTALS	\$ 432,276.32	82.8	\$ 89,741.66	17.2
				\$ 522,017.98

Note: 1. The figures quoted in column (1) include the total paid to locally employed administrative personnel and the administrative expenses paid to the provincially appointed superintendent of schools.

2. The figures in column (2) do not include the administrative charges to the local area.







The representative of decile six had the second highest percentage (86.9) that local costs were of total costs. Decile seven had a higher percentage than decile eight. In this instance, the superintendent was not on maximum salary. The representative from decile five had a lower percentage of total costs than the representative of decile four. The greater degree of centralization in decile four which demanded more administrative services, could account for the change of relative position.

This trend, that as enrolment increases the percentage that local costs are of total costs also increases, was to be expected. The need for more administrative personnel arising from increasing enrolment, and by the school division or county appointing extra administrative personnel to meet the need, accounts for the increased percentage that local costs were of total costs. The provincial expenditure, in terms of dollars, remains relatively constant as enrolment and, consequently, local expenditure increases.

#### IV. UNIT COSTS OF ADMINISTRATION FOR CERTIFICATED PERSONNEL

A unit cost, the cost per pupil, was determined for both the local and the total administrative cost of certificated administrative personnel. The data are shown in Table VI.

The table shows the number of pupils as well as the local and total expenditure and the local and total costs per pupil. The local costs ranged from \$13.41 in decile two to \$27.62 in decile six. The area with the greatest enrolment, decile ten, had the second highest



TABLE VI  
CERTIFICATED PERSONNEL COSTS PER PUPIL

Decile	Number of Pupils*	Local Administrative Costs		Total Administrative Costs	
		Expenditure	Cost Per Pupil	Expenditure	Cost Per Pupil
I	976	\$ 15,994.73	\$ 16.39	\$ 24,443.53	\$ 25.04
II	1,145	15,355.62	13.41	24,776.31	21.64
III	1,325	22,612.49	17.07	30,025.60	22.66
IV	1,742	34,414.82	19.76	43,247.55	24.83
V	1,985	30,217.88	15.22	39,497.00	19.90
VI	2,351	64,923.26	27.62	76,097.50	32.37
VII	2,411	47,700.32	19.88	56,543.10	23.45
VIII	2,713	50,323.92	18.55	60,263.81	22.21
IX	3,799	61,649.67	16.23	71,637.15	18.86
X	4,206	86,398.42	20.54	95,486.03	22.70
TOTAL	22,653	\$ 429,591.13	\$ 18.96	\$ 522,017.58	\$ 23.04

\* Number of pupils as reported on Form A Cards. This does not necessarily correspond with the figures quoted in Appendix B, which were used to select the school divisions and counties.



per pupil cost of \$20.54. The representative of decile nine had the third lowest per pupil cost, \$16.23. Decile four with an average enrolment per school of 435 pupils had the fourth highest per pupil costs, but decile three with an average enrolment of 442 pupils per school was fifth highest. Decile six had an average enrolment of 392 pupils per school, and had the highest per pupil cost.

The total administrative cost for certificated personnel shows that the cost range per pupil was not so great, ranging from \$18.86 in decile nine to \$32.37 in decile six. Decile one had a total per pupil administrative cost of \$25.04, the second highest. This school unit had an enrolment of 976 pupils. Cost attributable to the provincially-appointed superintendent of schools was 34.3 per cent of the total costs for certificated administrators. These two factors, namely, the low enrolment and the large percentage the provincial costs were of total costs, explain the high total cost per pupil.

The provincially-appointed superintendents of schools are normally assigned to a division or county regardless of the number of pupils found therein. The school authorities included in this study had enrolments ranging from 976 to 4,206 pupils. The provincial expenditure remained constant despite an increasing enrolment. The school division or county recognized the need for increased administrative services as enrolments increased. This need was met by the school authorities in deciles six, seven, eight and ten through the appointment of supervisors for the system. Deciles six, eight and ten chose to use their prerogative and appointed additional supervisors within the







schools. Decile nine chose to appoint additional vice-principals within its larger schools. All of these actions tended to increase the local costs. With a relatively constant provincial expenditure coupled with an increasing enrolment and the resultant need for more administrative personnel, the local share must increase while the provincial share decreases.

No direct relationship exists between the unit costs of administration and the need based upon the number of pupils. Since increasing equalized assessment was closely correlated to increasing need as shown in Table I, the conclusion was evident that per pupil expenditure shows no relation to ability to pay. This conclusion is considered further in the next section.

#### V. RELATION OF ABILITY TO PAY AND COSTS PER PUPIL

Table VII shows the number of pupils, the equalized assessment, assessment per pupil, the local costs, and the total costs per pupil in the selected school authorities.

As was indicated in the previous section, no relation was discernible between increasing ability to pay based upon equalized assessment and the unit cost.

The equalized assessment does not reflect the true ability to pay. A low assessment area with a low enrolment may actually have a greater ability to pay than the higher assessed area with a larger enrolment. To assess the ability to pay, a new measure, assessment per pupil, was introduced. The apparently low assessment areas of deciles two and three ranked second highest and highest respectively.



TABLE VII

## RELATION OF ABILITY TO PAY AND COST PER PUPIL

Decile	No. of Pupils	1962 Equalized Assessment	Assessment Per Pupil	Local Costs Per Pupil	Total Costs Per Pupil
I	976 (1)	1,455,005 (1)	\$ 1,650 (1)	\$ 16.39 (4)	\$ 25.04 (9)
II	1,145 (2)	6,606,132 (2)	5,551 (9)	13.41 (1)	21.64 (3)
III	1,325 (3)	8,969,314 (4)	6,744 (10)	17.07 (5)	22.66 (5)
IV	1,742 (4)	6,850,171 (3)	3,921 (2)	19.76 (7)	24.83 (8)
V	1,985 (5)	9,180,991 (5)	4,476 (3)	15.22 (2)	19.90 (2)
VI	2,351 (6)	11,044,828 (6)	4,594 (5)	27.62 (10)	32.37 (10)
VII	2,411 (7)	13,010,626 (7)	5,367 (8)	19.88 (8)	23.45 (7)
VIII	2,713 (8)	13,817,913 (8)	5,039 (7)	18.55 (6)	22.21 (4)
IX	3,799 (9)	17,843,612 (9)	4,693 (6)	16.23 (3)	18.86 (1)
X	4,206 (10)	18,723,382 (10)	4,449 (4)	20.54 (9)	22.70 (6)

Note: Rank numbers appear in brackets.



The apparent richest area studied, decile ten, ranked fourth in ability to pay.

To facilitate interpreting Table VII, rank numbers are included in brackets in each column. The rank numbers are from lowest to highest for the figures in each column.

When the rank numbers of assessment per pupil are compared to the rank numbers of local and total costs per pupil, it becomes evident that the per unit costs bear no relation to the ability to pay. Thus, decile three, fifth in per pupil cost, is tenth in ability to pay while decile six, tenth in unit cost, is fifth in ability to pay.

## VI. SUMMARY

This study shows that no relationship exists between number of pupils, ability to pay, and the unit cost per pupil.

Several possible explanations are presented. The degree of centralization, size of schools and number of administrative staff appeared to have a greater relationship to the total cost and, thus to the per-pupil cost. These factors, together with size and type of school, salary schedule in effect, and qualifications of staff, may affect costs within a school authority. These factors are analyzed in Chapter IV.





## CHAPTER IV

COST FACTORS IN ADMINISTRATIVE COSTS OF  
CERTIFICATED PERSONNEL

The statistics in Chapter III showed that the per pupil costs ranged from a low of \$13.01 to a high of \$27.62 for locally employed administrators. When the costs of the provincially appointed superintendent of schools were included, the unit costs ranged from \$18.86 to \$32.37. It was evident that unit costs were not related to ability to pay or enrolment. Chapter III indicated that certain cost factors influenced the unit costs.

This chapter will analyze some of the cost factors that may be used to explain the variations in the administrative costs per pupil. The following cost factors are considered:

1. The salary schedule effective in each area.
2. The size and type of school and the relationship to local cost per pupil.
3. The qualifications of the administrative staff employed.
4. The time spent on administration by principals, vice-principals, and supervisors.
5. The number of administrative staff employed.

This chapter will consider the above factors and their relation to local per pupil costs. Total unit costs were not considered in making comparisons or conclusions.



## I. COMPARISON OF SALARY SCHEDULES

A synopsis of the 1962-63 salary schedule in effect in each area is included in Table VIII. These data were obtained locally from bulletins issued from the offices of the Alberta Teachers' Association.

A study of the table shows that the basic salaries of the school authorities studied were comparable. The minimum salary for a teacher with one year of university training was \$3,000 for nine of the school authorities and \$3,100 in the tenth. Maxima ranged from \$4400 to \$4600. The minimum salaries for a teacher with four years of university education were from \$4,400 to \$4,900 with a mode of \$4,800. Maxima ranged from a low of \$7,100 in one instance, to \$7,800 for five school authorities. Similar ranges in both the minimum and maximum salaries are evident for the other years of university education. It was concluded that basic salary is not a factor in explaining differences in unit costs.

Six school authorities, those in deciles one, two, four, eight, nine and ten, did not have a maximum administrative allowance for principals. In those jurisdictions that had a maximum allowance, the allowance ranged from \$1,500 to \$1,700. Although the table does not show the administrative allowance for vice-principals, it was one-half of the principal's allowance in all salary schedules. This practice varied only in the cases where more than one vice-principal was appointed for a school. In the majority of these cases the vice-principal was paid an allowance equal to one-half of the administrative



TABLE VIII  
SYNOPSIS OF 1962-63 SALARY SCHEDULES

Decile		Basic Salary Years of University Education						Principals' Administration Allowance
		1	2	3	4	5	6	
I	Minimum	3000	3600	4200	4900	5200	5500	4 rooms x \$200
	Maximum	4500	5600	6600	7700	8000	8300	4 rooms x \$150
	Increments	8	8	8	8	8	8	4 rooms x \$100 _____ x \$ 50
II	Minimum	3100	3600	4000	4500	4800		\$100 per room
	Maximum	4400	5100	5900	7100	7400		\$150 for two- room schools
	Increments	10	11	12	12	12		
III	Minimum	3000	3500	4000	4700	5000	5300	5 rooms x \$125
	Maximum	4600	5450	6250	7650	7950	8250	5 rooms x \$100
	Increments	8	9	10	11	11	11	_____ x \$ 75 to \$1500
IV	Minimum	3000	3500	4200	4900	5200	5500	6 rooms x \$100
	Maximum	4500	5400	6300	7650	8000	8300	_____ x \$ 75
	Increments	8	9	9	10	10	10	
V	Minimum	3000	3500	4100	4900	5200	5500	5 rooms x \$125
	Maximum	4550	5400	6350	7700	8000	8300	8 rooms x \$ 75
	Increments	9	10	11	11	11	11	_____ x \$ 50 to \$1600
VI	Minimum	3000	3500	4000	4800	5100	5400	4 rooms x \$125
	Maximum	4500	5400	6400	7700	8100	8300	_____ x \$100
	Increments	8	8	8	10	10	10	to \$1500
VII	Minimum	3000	3500	4100	4800	5100	5400	3 rooms x \$175
	Maximum	4500	5400	6350	7700	8050	8350	7 rooms x \$ 75
	Increments	8	8	9	10	10	10	_____ x \$ 50 to \$1700

\* This school authority paid a bonus of \$900 to a teacher teaching thirteen or more high school credits







TABLE VIII (continued)

Decile		Basic Salary Years of University Education						Principals' Administration Allowance
		1	2	3	4	5	6	
VIII	Minimum	3000	3500	4000	4800	5100	5400	5 rooms x \$125
	Maximum	4600	5400	6300	7600	7900	8200	5 rooms x \$ 75
	Increments	8	8	9	10	10	10	_____ x \$ 50
IX	Minimum	3000	3600	4100	4800	5100	5400	8 rooms x \$150
	Maximum	4550	5450	6300	7550	7850	8100	_____ x \$ 50
	Increments	6	8	9	11	11	11	
X	Minimum	3000	3500	4000	4800	5100	5400	5 rooms x \$150
	Maximum	4500	5400	6300	7700	8000	8300	5 rooms x \$100
	Increments	10	10	10	10	10	10	10 rooms x \$ 50 _____ x \$ 30

Vice-principals received half of the principal's allowance.



allowance a principal would have received for the number of rooms over which he had supervisory responsibility. To illustrate, if in an eighteen room school a vice-principal had administrative responsibilities within eight rooms, he would receive one-half of the principal's allowance for an eight room school.

Although the administrative allowance contributes to the total cost, it was not a consistent factor in explaining differences in local unit costs. Four of the school authorities limited the administrative allowance. Referring to Table VI, page 31, it will be noted that decile six had the highest local per-pupil cost. Decile six had a maximum administrative allowance of \$1,500.00. Decile two had the lowest local per-pupil cost, but did not impose a maximum. Decile nine, with the third lowest per-unit costs, and some of the larger schools in this study, did not have a maximum. Decile five, with the second lowest unit cost, had a maximum of \$1,600.00.

The administrative allowance paid to principals and vice-principals had an effect on the local total costs of administrative personnel. However, the differences in maximum allowances were slight. Where no maxima exist, no consistent pattern evolved. It was concluded that the administrative allowances do not contribute significantly to differences in local unit costs.

## II. RELATION OF SCHOOL SIZE AND TYPE TO ADMINISTRATIVE COSTS

The principal legislation referred to earlier in this study requires that a vice-principal be appointed in schools where eight or



more teachers are employed.<sup>1</sup> The need for employing an extra administrator should influence the cost per pupil.

In classifying schools according to size, schools of two to seven teachers, that is those that do not require the appointment of a vice-principal, constituted the first group. As schools increased in size from one to five teachers, new size classifications were established. Schools of thirty-three or more teachers constituted the final group.

Of the seventy-three schools in this study, the largest number, twenty-seven, were in the two to seven teacher category. Twelve schools were in each of the next two categories. Only four schools had thirty-three or more teachers. The complete statistics are shown in Table IX.

Schools were also grouped according to the grades which were taught. Schools that offered instruction in grades one through six were classified as elementary schools. Elementary-junior high schools offered instruction in grades one through nine, while elementary-junior-senior high schools offered instruction in grades one through twelve. When any of the grades seven, eight or nine were combined for instruction with grades ten through twelve, the schools were classified as junior-senior high schools. Senior high schools offered instruction in grades ten through twelve.

The actual cost per pupil for each of the seventy-three schools was determined. The summary sheets used for each school authority are included as Appendix H, page 97.

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<sup>1</sup>Supra., p. 4.





TABLE IX  
DISTRIBUTION OF SCHOOLS ACCORDING TO SIZE

Deciles	Two to Seven Teachers	Eight to Twelve Teachers	Thirteen to Seventeen Teachers	Eighteen to Twenty- Three Teachers	Twenty- four to Twenty- Three Teachers	Twenty- eight to Thirty- two Teachers	Thirty- three or more Teachers	Totals
I	3	1	1					5
II	7	2	1					10
III		1		1		1		3
IV			2		2			4
V	1	3	2	1				7
VI	1	1		1	3			6
VII	4		2		2			8
VIII	4	4	3	1				12
IX	4			1	1	1	2	9
X	3		1	3			2	9
TOTAL	27	12	12	8	8	2	4	73



Appendix I. page 107 combines the two methods of classification and shows the cost of administration for each school in all of the selected school divisions and counties. The number of each type of school for each size classification is also shown in Appendix I.

A study of Appendix I shows that schools employing two to seven teachers were least expensive in terms of per-pupil costs for administration. This was particularly true of elementary and elementary-junior high schools in this size category. Only one administrator was required. Further, these administrators had mainly instructional responsibilities rather than administrative duties. Basic qualifications were also lower, causing salaries to be lower.

A further generalization, that schools in which high school grades are taught become more expensive, is evident from Appendix I. The administrator in these schools taught some high school classes. As a result, he was required to possess more university education and was paid a higher basic salary, than was the case with principals of small elementary or elementary-junior high schools.

The data of Appendix I are summarized in Table X. This table shows the averages of per pupil costs in each type and size classification. Average costs per school ranged from \$6.11 for two to seven roomed elementary schools to \$26.20 for a thirteen to seventeen roomed senior high school. The average of all schools within each size category ranged from \$7.76 for schools employing seven or fewer teachers to \$21.89 for schools employing thirteen to seventeen teachers. The average unit costs ranged from \$8.29 for elementary-junior high schools to \$26.20 for the one senior high school included in this study.



TABLE X

## AVERAGE ADMINISTRATIVE COSTS ACCORDING TO SIZE CLASSIFICATION AND TYPE OF SCHOOL

Type of School	SIZE CLASSIFICATION							Average Costs
	2 - 7 Teachers	8 - 12 Teachers	13 - 17 Teachers	18 - 22 Teachers	23 - 27 Teachers	28 - 32 Teachers	33 or more Teachers	
Elementary	(2) 6.11	(2) 15.20						(4) 10.65
Elementary Junior High	(18) 7.38	(1) 12.26			(1) 14.97	(1) 13.99		(21) 8.29
Elementary Junior-Senior High	(6) 7.37	(9) 17.51	(10) 21.03	(7) 21.07	(7) 19.68	(1) 16.30	(4) 17.54	(44) 15.54
Junior-Senior High	(1) 20.46		(1) 26.26	(1) 22.21				(3) 22.98
High School			(1) 26.20					(1) 26.20
AVERAGE COSTS (27)	7.76	(12) 16.69	(12) 21.89	(8) 21.21	(8) 18.97	(2) 15.15	(4) 17.54	

Note: Number of schools in each category are indicated by the number in brackets.





Elementary and elementary-junior high schools had the lowest unit cost. Generally, elementary schools were the least expensive. One elementary school had a per-pupil cost of \$24.63. If this school were excluded, the average costs would have been \$6.00 per pupil. When schools instructed high school grades, the unit cost increased. Thus junior-senior high schools became more costly than elementary-junior high schools, and the per-pupil administrative costs are highest in senior high schools. Although few samples were included in some of the size-type categories the trend seemed to be established.

Unit costs rose quite rapidly within the first three size categories to a high of \$21.89 for schools with thirteen to seventeen teachers. The cost remained fairly constant in the fourth size category. The trend seemed to be established that as schools increase in size beyond twenty-two teachers, the per-pupil cost of administration decreases. In elementary and elementary-junior high schools with seven or fewer teachers, the principal was a full time teacher and, normally, the only administrator employed. The majority of these administrators had lower qualifications when compared to the administrative staff of schools offering instruction to high school grades. A better qualified staff was usually required for high school instruction. The largest increase in per-pupil cost occurred in the schools employing eight to twelve teachers. A second person, the vice-principal, must be employed. Further, the principals of schools of this size normally teach high school grades, (nine out of twelve schools in this size category offered instruction to high school grades). As a result, qualifications of the administrators were improved. The school was large enough to allow the principal time



for administrative duties. Thus, a larger portion of the basic salary became an administrative cost. Schools employing thirteen to seventeen teachers all offered high school courses. In addition, extra time for administration was allowed. In some instances two vice-principals or an extra administrative person such as a librarian was employed.

Appendix H, page 97 shows the enrolments of these schools to vary between 284 pupils and 420 for schools "8F" and "8B" respectively.

Enrolments were still relatively low. The schools in the next category, eighteen to twenty-two teachers, had enrolments ranging from 412 to 492 pupils. The relative qualifications of staff, administrative time, and extra administrative personnel and low enrolments remained unchanged.

This accounts for the small difference in cost between these two size categories. However, in schools employing twenty-three or more teachers, the extra administrative staff did not increase much beyond those for schools employing thirteen to twenty-two teachers. Where the administrative staff increased as in school "10E" some of the administrators were best described as subject or area co-ordinators with no time off for supervisory responsibilities. Generally, the range of two to four administrators prevailed in each of the size categories beyond thirteen teachers. The increase in pupil enrolment, (one school had an enrolment 1,213 pupils) coupled with a stable number of administrative staff, combined to lower unit costs in the larger schools.





### III. QUALIFICATIONS OF ADMINISTRATIVE PERSONNEL

Table XI shows the distribution of administrative personnel employed by each school authority during 1962 according to years of university education. The table also shows the qualifications of the various classes of administrators, principals, vice-principals or supervisors employed by each school authority.

A compilation of this table shows the following number of staff with four or more years of professional education and the total administrative staff:

Decile	I	II	III	IV	V	VI	VII	VIII	IX	X
*No. of administrators.	3	8	3	8	13	11	14	18	10	13
Total administrative staff	9	18	8	9	15	20	19	26	18	30
Per cent	33.3	44.4	37.5	88.8	86.6	55.0	73.7	69.2	55.5	43.3

\*No. of administrators with four or more years of professional education.

Table VI on page 31, showed the local costs per pupil. A comparison of Table VI and the above statement of facts shows that while decile six had the highest unit costs and decile nine had the third lowest per pupil cost, each decile had the same percentage (55) of their staff with four or more years of professional education. Decile ten with the second highest per pupil costs had the third lowest qualified administrative staff. At the other extreme, decile five had the second lowest unit costs and the second highest percentage of administrative staff with four years of university education or more.





TABLE XI

DISTRIBUTION OF LOCALLY-EMPLOYED ADMINISTRATIVE PERSONNEL  
ACCORDING TO YEARS OF UNIVERSITY EDUCATION

Years of Education		One	Two	Three	Four	Five	Six	Totals
Decile	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)	(1) (2) (3) (4)
I	2 1	1	2	2	1		5 4	
II	7	2	1	2 2	3 1		14 4	
III	2	2	1	3			3 5	
IV			1	1 2	1 1	2 1	4 5	
V		1 1		4 5	2 1	1	8 7	
VI	4	1 2 1	1	2 4	1 4		7 6 6 1	
VII	2	1 1	1	5 4	1	2 1	9 9	
VIII	1	3 1 1	2	6 8	1 1	1 1	13 10 2 1	
IX	2	3 1	1	4 4		1 1	10 8	
X	1	1	1 1 1 3 2	4 3 2	1 1	2	10 7 12 1	
TOTALS	12 5 12 0 12 9 3 1 6 7 3 0 31 34 2 2 13 7 0 1 9 3 0 0 83 65 20 4							

Note: The column numbers refer to the administrative personnel as follows:

1. principals,
2. vice-principals,
3. supervisors within a school,
4. supervisors within the system.

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The conclusion seems evident that the qualifications of the administrative staff were not significant in explaining the variations in local unit costs. The qualifications definitely had a relationship to the basic salary paid the administrator, but it was not the most important factor in determining per-pupil cost.

Appendix J, page 110, shows the qualifications of the administrative staff employed in each size-type category of school. The schools employing two to seven teachers attracted the lowest qualified staff. Eight out of the thirty-seven administrators had four or more years of university education. Six were employed in schools offering high school instruction. As schools became larger, and wherever high school instruction was offered, the qualifications of administrative personnel improved. To illustrate, twenty-nine out of forty-three administrators of schools employing thirteen to twenty-two teachers had four or more years of university education. As a general rule, both the principal and vice-principal had four or more years of professional education.

#### IV. ADMINISTRATIVE TIME

Appendix K, page 113, shows the administrative time for the principals, vice-principals and supervisors of each school studied. The figures immediately after the school's identifying number (8A means school A of decile eight) show the time allowed for administrative duties for each administrator identified.

Principals of schools employing two to seven teachers can best be classified as full-time teaching principals. The statistics in



Appendix K show that twenty-four out of thirty-seven administrators of schools in this size category had no time for administrative duties. One principal had nineteen periods per week for administrative duties. He was the principal of a senior high school. The other administrative staff had from two to eight periods per week. In the elementary-junior high school, when a principal had time off for administrative duties, this was generally the result of the principal's class attending industrial arts and home economics classes in another school.

Three vice-principals were employed in three schools of this size category even though their services were not mandatory. The effect of this practice will be commented on in the next subsection.

One elementary principal had twenty-four periods per week for administration in a school employing twelve teachers. The per pupil costs in this school were \$24.63. As schools increased in size, more time was allowed principals for administrative duties. This trend, though not so great, also existed for vice-principals. With the exception of one large elementary-junior high school, principals of schools offering high school instruction received the most time for administration.

The time allocated for administrative duties has a direct influence on local unit costs. The more time an administrator had for administrative responsibilities the larger the portion of basic salary chargeable to administration became. School "6A" employed three administrators with thirty, sixteen and forty periods per week for administrative duties. This is an average of 26.6 periods per week. The per pupil cost in this school was \$26.43 as reported in Appendix I.







School "6F" had four administrators with sixteen, twelve, zero and forty periods per week for administration, giving an average of seventeen. The unit costs in this school were \$17.07. School "10A" employed six administrators. Two had time for administration of thirty-eight and ten periods per week respectively. The rest taught full time. The per-pupil costs in this school as reported in Appendix I were \$14.92.

#### V. NUMBER OF ADMINISTRATIVE POSITIONS

Table XII indicates the number of administrative positions within the schools of the selected school authorities. The minimum number of school positions is one for each school employing two to seven teachers and two positions for each school employing eight or more teachers. The table shows the minimum number of administrative positions, the actual number of administrative positions within each school authority, and the number of administrators employed in 1962. To illustrate, decile one had three schools requiring one administrator and two requiring two administrators. Thus seven administrative positions existed. This school authority chose to appoint eight administrators, one more than required. Nine people occupied these positions during 1962. With one exception every school authority chose to employ at least one more administrator than was required. In addition, the representatives of deciles six, seven, eight and ten, chose to have a supervisor for the system.

Table XIII compares the rank order of local unit costs to the rank order of percentage of extra administrators. To arrive at the



TABLE XII  
NUMBER OF ADMINISTRATIVE POSITIONS  
AND ADMINISTRATORS EMPLOYED

Decile	Number of Schools Requiring One                      Two Administrator      Administrators		Minimum No. of Administrative Positions	Number Employed in Administrative Positions	Total Administ- rators Employed in 1962.
I	3	2	7	8	9
II	7	3	13	14	18
III	0	3	6	8	8
IV	0	4	8	9	9
V	1	6	13	13	15
VI	1	5	11	16	19
VII	4	4	12	16	18
VIII	4	8	20	22	25
IX	4	5	14	17	18
X	3	6	15	27	29



TABLE XIII  
COMPARISON OF RANK ORDER OF COSTS TO RANK ORDER OF  
PERCENTAGE OF EXTRA ADMINISTRATIVE PERSONNEL

Decile	* Rank Order of	
	Local Cost Per Pupil	Percentage of Extra Administrators
I	4	5
II	1	2
III	5	7
IV	7	3
V	2	1
VI	10	9
VII	8	8
VIII	6	4
IX	3	6
X	9	10

\* Rank order from low to high.





latter rank order, the number of extra locally-employed personnel was determined by subtracting the number of minimum administrative positions, from the number employed in administrative positions for each school authority. This difference was then compared to the minimum required number and converted to a percentage. To illustrate, decile one had eight administrative positions and a minimum required of seven. The difference, one, was compared to seven and converted to fourteen decimal seven per cent. The resultant percentages were ranked from low to high, the same as the local unit costs were ranked in Table VII on page 34.

This rank order comparison in Table XIII gives the correlation of rank numbers that was obtained. The conclusion was made that the number of extra administrative personnel employed by a school authority has a direct bearing on the variations of administrative costs per pupil. This, coupled with time for administration is an important factor in explaining differences in local unit costs.

## VI. CONCLUSION

Of the cost factors considered in this study, size and type of school, time for administration, and number of administrative personnel are the most significant in determining local administrative costs per pupil resulting from certificated personnel. A combination of any of the above factors explains differences in local unit costs.



## CHAPTER V

### CONCLUSIONS

The information obtained through this study, will, it is hoped, prove to be valuable to students of educational administration and to practising administrators. This paper can act as a guide to the practising administrator to evaluate the costs of certificated administrative personnel in his school division or county. While the structured sampling technique does not show the total cost of certificated administrative personnel throughout all of rural Alberta, certain trends in these costs become apparent.

#### I. SUMMARY

##### Structured Sampling Technique

Two basic criteria, number of pupils and equalized assessment, were chosen. The fifty-nine school divisions and counties were ranked in ascending order in each criterion and divided into deciles. Wherever possible representative school authorities were chosen from the same decile of both criteria. If this was not possible then number of pupils became the prime criterion.

##### Data Required

Two basic sets of data were required. Data obtained from the records of the school division or county included information on the administrative personnel employed in each school. Other data obtained from Department of Education files, contained information on the salary



and other remuneration of the provincially-appointed superintendents of schools.

Information was obtained on one hundred seventy-two locally employed administrative personnel and on the ten provincially-appointed superintendents of schools. Of the locally employed personnel, one hundred sixty-eight were employed in seventy-three schools. The remaining four were employed as supervisors for the entire school division or county.

#### Costs of Locally Employed Administrative Personnel

As school divisions increased in size, the costs of administration increased. There was one notable exception, the representative of decile six. Costs varied from a low of \$15,994.73 to a high of \$86,398.42.

#### Costs of Provincially Appointed Administrative Personnel

The Province of Alberta subsidized the cost of administration in rural Alberta in amounts ranging from \$6,819.49 to \$9,079.81 in actual salary paid to the superintendent of schools and in amounts ranging from \$237.94 to \$1,554.31 in expenses. The combined totals ranged from \$7,305.11 to \$9,990.26.

#### Total Costs of Administration for Certificated Personnel

The total costs of administration increased as the school authority increased in number of pupils. Although the amount of provincial costs remained relatively constant, this amount expressed as a percentage of the total costs, decreased as the school division or county increased in enrolment. This was to be expected.





### Unit Costs of Administration

Unit costs of administration, based on the average cost per pupil showed that the local per pupil cost ranged from \$13.41 to \$27.62. The total costs of administration ranged from \$18.86 to \$32.37. Decile six was high in both cases.

### Relation of Unit Costs to Ability and Need

No relationship between unit costs and ability or need was discernible.

### Salary Schedules as a Cost Factor

A study of the 1962-63 salary schedules showed that the basic salaries received were very comparable. Where differences did exist in the administrative allowances paid to principals and vice-principals it was concluded that this was not a significant factor in explaining the variances in unit costs.

### School Size and Type as a Cost Factor

The most expensive school in local per pupil administrative costs is a high school for which thirteen to seventeen teachers are employed. The school in which one to seven teachers are employed is the least expensive, because only one administrator needed to be employed. Analysis seems to indicate that when schools are taught by twenty-two or more teachers, the per pupil costs decreased as the school became larger. Schools in which high school grades are taught are the most expensive. Further, as schools became more selective towards high school instruction, unit costs increased. School size and type was an important factor in



unit administrative cost.

#### Administrators' Qualifications as a Cost Factor

Recognizing the fact that within larger schools and schools instructing high school grades, administrative personnel with higher qualifications are usually employed, it was concluded that qualifications of the administrative personnel was not the most important factor in explaining differences in unit costs.

#### Administrative Time as a Cost Factor

The amount of time allowed to administrative duties was an important factor in determining the per pupil costs of administration.

#### Number of Administrators as a Cost Factor

Each school authority had the right to employ extra administrative personnel beyond those whose services are mandatory by law. This writer concluded that a direct relationship existed between the number of extra administrative personnel and the local per pupil cost.

## II. CONCLUSIONS AND OBSERVATIONS

1. Elementary schools have the lowest per pupil administrative cost. Of the four schools in this type, two required a vice-principal. One school authority chose to release the principal for twenty-four periods per week for administrative duties. The vice-principal had ten periods per week for supervisory duties. Both were well qualified. As a result per pupil costs were much higher. The organization within another elementary school of the same size category allowed the

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principal four periods per week for administrative duties. The costs in this school were lower than in the two schools employing seven or fewer teachers.

The increase in unit costs of certificated personnel resulting from administrative time is a direct result of the school authority's policy.

2. The qualifications of staff in the size category of two to seven teachers were lower than in any other size category. This is particularly true of principals in the elementary and elementary-junior high school. Two out of twenty-six administrators had four years of training. In those schools offering high school instruction, three out of seven principals employed in the fall term of 1962 did not have a degree. Of the twelve administrators employed during 1962, one-half had four or more years of training. The principals of the remaining forty-five schools in the other size categories all had four or more years of university training with the exception of two who had three years. These facts were obtained from Appendix J., page 110.

These facts would indicate the schools in this size range are unable to attract and retain qualified administrative personnel, but attract young teachers wishing experience or the extra salary from the administrative allowance. They are realizing the latter but not obtaining much administrative experience because little time was available for administrative duties. When a degree was obtained, the observation was that these principals move into high schools as a principal or as a teacher. The small rural school principalship is a stepping-stone.







The prestige principalships are those in which high school instruction was offered or in schools of eight or more rooms. Very little variation of principals' qualifications occurred within these schools.

3. The time allowed for administration was another important cost factor to determine variations in local unit costs. This factor coupled with the qualifications of the principal and vice-principal of school "1B" (see Indices K and I respectively) produced a unit cost of \$24.63 which was the sixth highest per pupil cost. The schools, "5D", "6A", "6B", "7A", "10F", and "10G" with the six highest per pupil cost averaged, respectively,  $16 \frac{2}{3}$ ,  $28 \frac{2}{3}$ ,  $15 \frac{2}{3}$ , 13,  $16 \frac{1}{4}$ , and  $21 \frac{3}{4}$  periods per week for administration.

The amount of time allowed for administration was a factor that reflects local control. If the principal was not interested in the task of supervision, he probably taught more than a principal who was interested. The principal may also have been expected to have supervisory time, reflecting the superintendent's and/or school board's philosophy. The capabilities of the principal to do the job of supervision might also have influenced the amount of time allowed. Schools in which high school instruction was offered made more time available for administration. The prestige position may account for this, but in all probability increased time came as a result of time scheduling of classes. School "1A", a junior-senior high school of seven teachers allowed nearly half time for administration to the principal. One can only speculate as to the need for this amount of time for supervision as compared to a seven teacher elementary-junior high school.



4. School size and type is another important factor in determining local unit costs. Some implications have been discussed above.

Decile nine has been noted as having the third lowest unit cost. Four of this school authority's schools were in the least expensive size category. Further, these four were elementary or elementary-junior high schools. The cost per pupil ranged from \$6.25 to \$7.89. Four more schools were in the twenty-three or more teacher size category, where average per pupil costs decreased. All of these schools offered instruction in grades one through twelve. Table X on page 44, shows that these schools are the third lowest in average per pupil costs. The remaining school, in the eighteen to twenty-two size category, the second most expensive, operated at \$17.65 per pupil, \$3.56 lower than average. All of the largest schools had a per pupil cost lower than the average for that size category.

5. Table XIII shows that the number of extra administrative personnel is an important cost factor. Where the percentage of additional administrators was low, cost per pupil was low.

Decile five chose not to appoint extra administrators. This school authority had the lowest local per-pupil costs. The school authorities which employed the greatest percentage of extra personnel, deciles ten, six and eight, in descending order, ranked ninth, tenth, and eighth respectively in local unit costs.

Decile ten chose to create twelve additional administrative positions, one of which was a supervisor for the system. Five of the eleven extra administrative personnel who were assigned to a school were not given time for administrative responsibilities.





6. The representative school authority for decile six has been noted throughout this study. It had the highest local and total per pupil cost. It was second highest in number of extra administrators. It had a well qualified supervisor for the system who commanded a substantial additional allowance as well as his salary. See Appendix G, Decile VI for details. Its superintendent's administrative charges to the school authority were the highest; four times greater than the next highest charge by a superintendent as determined from Table V on page 29.

As a result of the practices affecting the school cost per pupil, five of the six schools had an average per pupil cost far in excess of the average per pupil cost of the size category in which the schools were located. The same statement is true for the average costs per pupil in the type category. The sixth school was a small elementary-junior high school that had lower than average costs.

One can only speculate as to the reasons for the abnormally high local and school costs per pupil. The area was sixth in enrolment and fifth in assessment per pupil. Was the board of trustees convinced that an administrative hierarchy of superintendent, system supervisor, principal, vice-principal(s) and school supervisor(s) was necessary? In all probability, the responsibility rested with one person, the superintendent of schools. Is the administrative structure producing better academic results, or greater retention of pupils and staff? The answer to this problem lies beyond the scope of this study.

7. The school size and type, the amount of time for administrative duties, and the number of extra administrative personnel are the most important cost factors in determining the local per pupil





cost. These cost factors are the result of the school board's and/or superintendent's decisions.

### III. SUGGESTIONS FOR FURTHER RESEARCH

1. The writer recognizes the limitations of the conclusions drawn, particularly with reference to numbers two and four. However, an administrative structure does not and must not exist for itself. There may be need for further research to determine if areas in which administrative costs are highest are operating a superior educational system. Are the academic results or holding power better in these areas when they are compared to areas of lower per pupil expenditure? A system's analysis could provide the answer to this problem.

2. The trend that larger schools become less expensive in per pupil costs seemed to be established from the data gathered. A further study might be made of administrative costs in larger towns and cities of Alberta to see if this trend is continued.

3. This study was limited to rural Alberta. A study of city and town school systems would determine if any difference in administrative costs is evident in rural and urban Alberta.

4. Other costs of administration relating to non-certificated personnel would establish a more comprehensive view of the total of administrative costs in Alberta. It is suggested that two further studies be made, one on administrative costs for non-certificated administrative personnel in rural Alberta, and the other on the same topic in urban Alberta.



These suggested studies should give a greater understanding of all administrative costs within the school systems in Alberta. They will be of value to the practising school administrator.



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Department of Education, Senior High School Handbook, Edmonton; Queen's Printer, 1962.



## APPENDIX A



APPENDIX A  
EQUALIZED ASSESSMENT OF SCHOOL DIVISIONS  
AND COUNTIES IN ASCENDING ORDER

Decile	Rank No.	Unit No.	Division or County	Equalized Assessment 1962
I	1	S.D. 52	Fort Vermilion	511,512
	2	S.D. 55	Red Deer Valley	793,273
	3	S.D. 61	Northland	908,527
	4	S.D. 54	East Smoky	1,455,005
	5	S.D. 51	Lac La Biche	2,135,006
	6	S.D. 1	Berry Creek	3,252,825
II	7	S.D. 9	Sullivan Lake	3,890,460
	8	S.D. 16	Neutral Hills	4,515,463
	9	S.D. 15	Rocky Mountain	4,629,314
	10	S.D. 46	Bonnyville	4,742,594
	11	C. 13	Smoky Lake	5,151,926
	12	S.D. 50	Fairview	5,416,602
III	13	C. 19	St. Paul	5,608,885
	14	C. 11	Barrhead	6,055,477
	15	C. 12	Athabasca	6,174,637
	16	S.D. 48	High Prairie	6,596,863
	17	S.D. 47	Spirit River	6,600,005
	18	S.D. 4	Medicine Hat	6,606,132
IV	19	S.D. 30	Drumheller	6,721,387
	20	S.D. 33	Provost	6,747,734
	21	C. 7	Thorhild	6,850,171
	22	S.D. 8	Acadia	7,266,983
	23	C. 18	Paintearth	7,372,219
	24	C. 4	Newell	7,547,304
V	25	S.D. 11	Lac Ste Anne	7,876,451
	26	S.D. 10	Peace River	8,916,091
	27	S.D. 29	Pincher Creek	8,969,314
	28	C. 6	Stettler	9,130,925
	29	S.D. 21	Two Hills	9,180,991
	30	S.D. 37	Westlock	9,558,663
VI	31	C. 1	Grand Prairie	9,737,620
	32	C. 10	Wetaskiwin	10,048,078
	33	S.D. 32	Wainwright	10,312,057
	34	C. 15	Sturgeon	10,459,291
	35	C. 9	Beaver	11,044,828
	36	S.D. 38	Foothills	11,403,150

# 2. 1992

Summary of the 1992 Survey of the  
 National Health and Medical Research Council

Category	Sub-category	Value	Unit	Notes
Total	Population	10,000,000		
	Male	5,000,000		
	Female	5,000,000		
	Age 0-14	1,500,000		
	Age 15-64	6,000,000		
	Age 65+	2,500,000		
Health	Good	7,000,000		
	Fair	2,000,000		
	Poor	1,000,000		
	Very poor	500,000		
	Unknown	500,000		
	Total	11,000,000		
Mortality	Infant	10,000		
	Child	20,000		
	Adult	100,000		
	Elderly	50,000		
	Total	140,000		
	Rate	1.4	%	
Morbidity	Chronic	5,000,000		
	Acute	3,000,000		
	Sub-acute	1,000,000		
	Unknown	500,000		
	Total	9,500,000		
	Rate	0.95	%	
Disability	Physical	2,000,000		
	Mental	1,000,000		
	Sensory	500,000		
	Unknown	500,000		
	Total	4,000,000		
	Rate	0.4	%	



## APPENDIX A (continued)

Decile	Rank No.	Unit No.	Division or County	Equalized Assessment 1962
VII	37	S.D. 6	Taber	11,708,159
	38	S.D. 22	Killam	11,971,462
	39	C. 8	Forty Mile	12,041,012
	40	S.D. 2	Cardston	12,063,536
	41	S.D. 18	Lamont	12,346,007
	42	C. 5	Warner	12,618,917
VIII	43	S.D. 19	Vegreville	13,010,626
	44	S.D. 7	Lethbridge	13,031,015
	45	S.D. 20	Camrose	13,817,913
	46	C. 3	Ponoka	14,122,136
	47	S.D. 12	Edson	14,192,127
	48	S.D. 60	Three Hills	14,504,495
IX	49	C. 16	Wheatland	14,562,185
	50	S.D. 23	Stony Plain	16,454,033
	51	S.D. 28	Macleod	16,780,498
	52	S.D. 25	Vermilion	16,948,051
	53	C. 2	Vulcan	17,831,455
	54	C. 17	Mountain View	17,843,612
X	55	S.D. 49	Leduc	17,992,721
	56	C. 14	Lacombe	18,426,871
	57	S.D. 35	Red Deer	18,723,382
	58	S.D. 41	Calgary	19,317,214
	59	C. 20	Strathcona	33,936,564



APPENDIX B



## APPENDIX B

## NUMBER OF PUPILS IN SCHOOL DIVISIONS

## AND COUNTIES IN ASCENDING ORDER

Decile	Rank Number	Unit No.	Division or County	No. of Pupils
I	1	S.D. 1	Berry Creek	171
	2	S.D. 55	Red Deer Valley	519
	3	S.D. 9	Sullivan Lake	563
	4	S.D. 16	Neutral Hills	790
	5	S.D. 52	Fort Vermilion	876
	6	S.D. 54	East Smoky	882
II	7	S.D. 30	Drumheller	997
	8	S.D. 33	Provost	1,008
	9	S.D. 8	Acadia	1,023
	10	S.D. 4	Medicine Hat	1,190
	11	S.D. 61	Northland	1,222
	12	C. 18	Paintearth	1,288
III	13	S.D. 29	Pincher Creek	1,330
	14	S.D. 38	Foothills	1,444
	15	S.D. 50	Fairview	1,451
	16	C. 8	Forty Mile	1,531
	17	C. 6	Stettler	1,546
	18	C. 13	Smoky Lake	1,664
IV	19	S.D. 51	Lac La Biche	1,730
	20	C. 4	Newell	1,733
	21	C. 7	Thorhild	1,747
	22	S.D. 32	Wainwright	1,923
	23	C. 16	Wheatland	1,939
	24	C. 2	Vulcan	1,959
V	25	S.D. 47	Spirit River	1,959
	26	C. 19	St. Paul	1,985
	27	S.D. 21	Two Hills	2,051
	28	S.D. 15	Rocky Mountain	2,099
	29	S.D. 60	Three hills	2,128
	30	S.D. 22	Killam	2,224
VI	31	C. 10	Wetaskiwin	2,242
	32	S.D. 41	Calgary	2,319
	33	S.D. 18	Lamont	2,341
	34	C. 11	Barrhead	2,373
	35	C. 5	Warner	2,403
	36	C. 9	Beaver	2,404





## APPENDIX B (continued)

Decile	Rank Number	Unit No.	Division or County	No. of Pupils
VII	37	S.D. 19	Vegreville	2,424
	38	S.D. 46	Bonnyville	2,517
	39	C. 12	Athabasca	2,574
	40	C. 28	Macleod	2,602
	41	S.D. 10	Peace River	2,648
	42	C. 1	Grande Prairie	2,691
VIII	43	C. 15	Sturgeon	2,696
	44	S.D. 25	Vermilion	2,715
	45	S.D. 20	Camrose	2,742
	46	S.D. 6	Taber	2,752
	47	S.D. 37	Westlock	2,766
	48	S.D. 2	Cardston	2,901
IX	49	S.D. 11	Lac Ste Anne	2,990
	50	S.D. 48	High Prairie	3,046
	51	S.D. 7	Lethbridge	3,286
	52	C. 3	Ponoka	3,467
	53	C. 14	Lacombe	3,647
	54	C. 17	Mountain View	3,802
X	55	S.D. 12	Edson	3,851
	56	S.D. 49	Leduc	3,959
	57	S.D. 23	Stony Plain	4,056
	58	S.D. 35	Red Deer	4,208
	59	C. 20	Strathcona	4,245

Reference: Fifty-Seventh Annual Report of the Department of Education,  
Government of the Province of Alberta: Edmonton, 1963, p. 196.



# APPENDIX C



## APPENDIX C

## COMPILATION OF ASSESSMENT AND NUMBER OF PUPILS

## OF SCHOOL DIVISIONS AND COUNTIES

## IN ASCENDING ORDER

Decile	Rank Number	Assessment Unit No.	Number of Pupils Unit No.
I	1	S.D. 52	S.D. 1
	2	S.D. 55	S.D. 55
	3	S.D. 61*	S.D. 9
	4	S.D. 54	S.D. 16
	5	S.D. 51	S.D. 52
	6	S.D. 1	S.D. 54*
II	7	S.D. 9	S.D. 30
	8	S.D. 16	S.D. 33
	9	S.D. 15	S.D. 8
	10	S.D. 46	S.D. 4*
	11	C. 13	S.D. 61
	12	S.D. 50	C. 18
III	13	C. 19	S.D. 29*
	14	C. 11	S.D. 38
	15	C. 12	S.D. 50
	16	S.D. 48	C. 8
	17	S.D. 17	C. 6
	18	S.D. 4*	C. 13
IV	19	S.D. 30	S.D. 51
	20	S.D. 33	C. 4
	21	C. 7*	C. 7*
	22	S.D. 8	S.D. 32
	23	C. 18	C. 16
	24	C. 4	C. 2
V	25	S.D. 11	S.D. 47
	26	S.D. 10	C. 19
	27	S.D. 29*	S.D. 21*
	28	C. 6	S.D. 15
	29	S.D. 21*	S.D. 60
	30	S.D. 37	S.D. 22
VI	31	C. 1	C. 10
	32	C. 10	S.D. 41
	33	S.D. 32	S.D. 18
	34	C. 15	C. 11
	35	C. 9*	C. 5
	36	S.D. 38	C. 9*





## APPENDIX C (continued)

Decile	Rank Number	Assessment Unit No.	Number of Pupils Unit No.
VII	37	S.D. 6	S. D. 19*
	38	S.D. 22	S. D. 46
	39	C. 8	C. 12
	40	S.D. 2	S. D. 28
	41	S.D. 18	S. D. 10
	42	C. 5	C. 1
VIII	43	S.D. 19*	C. 15
	44	S.D. 7	S. D. 25
	45	S.D. 20*	S. D. 20*
	46	C. 3	S. D. 6
	47	S.D. 12	S. D. 37
	48	S.D. 60	S. D. 2
IX	49	C. 16	S. D. 11
	50	S.D. 23	S. D. 48
	51	S.D. 28	S. D. 7
	52	S.D. 25	C. 3
	53	C. 2	C. 14
	54	C. 17*	C. 17*
X	55	S.D. 49	S. D. 12
	56	C. 14	S. D. 49
	57	S.D. 35*	S. D. 23
	58	S.D. 41	S. D. 35*
	59	S.D. 20	C. 20

\*Indicates school authorities chosen for the study.

The letter prefix "C" indicates counties. The remaining school authorities are school divisions.



## APPENDIX D



Analysis Sheet for Certificated Administrative Personnel

Employing School Authority .....

Administrative Position .....

A. General Information

1. Person .....

Age .....Birthdate.....Sex...

Degree(s) Held .....

Number of years of teacher education for salary .....

Alberta certificate held .....

Experience

(a) with present school authority .....

(b) elsewhere .....

(c) total .....

Period of employment in this position during 1962.....  
(months)

2. School .....

No. of teachers, 1962, June Term .....

December Term .....

No. of pupils, 1962, reported on Form A .....

B. Salary and Allowances

Basic teacher salary, June Term .....

December Term .....

Administrative allowance .....

Total salary .....

Extra administrative allowances for 1962 .....

10/10/1910

10/10/1910

10/10/1910

10/10/1910

10/10/1910

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## APPENDIX D (continued)

C. Administrative Costs Analysis

Administrative Allowance .....	
Pro-rated basic salary .....	
Extra administrative allowance .....	
Total administrative allowance .....	
Number of periods of instruction	
June Term .....	
December Term .....	

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APPENDIX E



Analysis Sheet for Pro-ratingSuperintendent's Salary and Travelling Expense

Superintendent's.....

Degree(s).....

Inspectorate.....

Number of schools in divisions or counties.....

Number of individual schools.....

A. Basic salary.....

Expense Account.....

Administrative expenses charged to  
school authority.....B. Proportion of Costs to Department of Education

\*Time on Department of Education duties.....

Number of days recorded in statistical Report.....

Portion of salary allocated to Department  
of Education duties.....

Amount of expense account chargeable to Department of

\*\*Education duties.....

Total Department of Education costs.....

C. Net Administrative Costs to Division or County

Total administrative costs.....

Total Department of Education costs.....

Amount of administrative costs to division  
or county.....

\*This will include days spent in visiting schools not within  
the division or county but within the inspectorate.

\*\*The travelling expenses to visit schools not within the  
division or county but within the inspectorate will be included.

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APPENDIX F

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Schools	Admin. No.	Principals				Vice-Principals				Supervisors				GRAND TOTALS School System			
		Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allowance	T o t a l School System				
A	1	400.00			400.00										400.00		
B	2	150.00			150.00										150.00		
C	3	1400.00	3984.17		5384.17	700.00	1272.92		1972.92								
	4														7357.09		
D	5	66.67			66.67												
	6	133.33			133.33										200.00		
E	7	50.00			50.00												
	8	100.00			100.00										150.00		
F	9	166.67			166.67												
	10	333.33			333.33												
	11					250.00			250.00						750.00		
G	12	50.00			50.00										50.00		
H	13	300.00	659.31		959.31												
	14	600.00	1802.50		2402.50												
	15					450.00	666.67		1116.67						4478.48		
I	16	666.67	811.05		1477.72												
	17					133.33			133.33						1611.05		
J	18	150.00			150.00										150.00		
TOTAL		4566.67	7257.03		11823.70	1533.33	1939.59		3472.92						15296.62		
															Designate any extra allowance Total	59.00	
															Total for locally employed personnel	15355.62	
															Add Superintendents' costs	9420.69	
															GRAND TOTAL	24776.31	

Designate any extra allowance  
Total  
Total for locally employed personnel  
Add Superintendents' costs  
GRAND TOTAL



Designate any extra allowance	200.00
Total	<u>34414.82</u>
Total for locally employed personnel	
Add Superintendents' costs	<u>8832.73</u>
GRAND TOTAL	<u>43247.55</u>



Designate any extra allowance	120.00
Total	3,217.00
Total for locally employed personnel	
Add Superintendents' costs	27.12
GRAND TOTAL	3,477.00







Designate any extra allowance  
Total  
Total for locally employed personnel  
Add Superintendents' costs  
**GRAND TOTAL**



Schools	Admin. No.	Principals				Vice-Principals				Supervisors				GRAND TOTALS	
		Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allowance	T o t a l School    System	School	System
A	1	500.00	543.33		1043.33									1043.33	
B	2	1166.67	1951.67		3118.34										
	3					583.33	933.34		1516.67						
	4					208.33	420.55		638.88					5263.89	
C	5	1366.67	3204.17		4570.84										
	6					686.66	1143.34		1830.00					6400.81	
D	7	1050.00	1820.00		2870.00										
	8					525.00	742.60		1267.60					4137.60	
E	9	625.00	500.47		1125.47									1125.47	
F	10	1121.66	2055.83		3177.49										
	11					560.83	687.50		1248.33						
	12										2538.89		2538.89	6964.71	
G	13	258.33	168.67		427.00										
	14	516.67	803.33		1320.00									1747.00	
H	15	825.00	1265.18		2090.18										
	16					412.50	440.00		852.50					2942.68	
I	17	1166.67	1825.00		2991.67										
	18					200.00	367.50		567.50						
	19					383.33	437.50		820.83					4380.00	
J	20	1066.67	2454.83		3521.49										
	21					533.33	1244.45		1777.78					5299.27	
K	22	1016.67	2071.67		3088.34										
TOTAL															

Designate any extra allowance

Total

Total for locally employed personnel

Add Superintendents' costs

GRAND TOTAL



Designate any extra allowance	440.38
Total	3440.38
Total for locally employed personnel	50323.92
Add Superintendents' costs	9959.89
GRAND TOTAL	60263.61



[illegible]



Schools	Admin. No.	Principals				Vice-Principals				Supervisors				GRAND TOTALS	
		Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allow- ance	Total	Adminis- trative Allowance	Pro- Rated Basic	Other Allowance	Total School System	School	System
A	1	2003.33	6464.17		8467.50										
	2					1001.67	3112.71		4114.38						
	3									100.00	161.50		261.50		
	4										4500.00		4500.00	17343.38	
B	5	1583.33	4745.00		6328.33										
	6					791.67	591.33		1383.00						
	7										787.50		787.50	8498.83	
C	8	200.00			200.00										
	9	366.67			366.67									566.67	
D	10	450.00			450.00									450.00	
E	11	2193.33	7285.42		9478.75										
	12					1096.67	1883.33		2980.00						
	13									66.67			66.67		
	14									66.67			66.67		
	15									66.67			66.67		
	16										5433.33		5433.33	18092.09	
F	17	1400.00	3338.67		4738.67										
	18					250.00	720.33		970.33						
	19					450.00	1521.33		1971.33						
	20										2803.33		2803.33	10483.66	
TOTAL										(cont'd on Sheet 2)					

Designate any extra allowance

Total

Total for locally employed personnel

Add Superintendents' costs

GRAND TOTAL





## APPENDIX G





ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 1

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	*Miles	Dep't Trips	Total Deductions	
January	24	11	225.58	--	140	124.75	144.35	81.23
February	22	4	240.17	1.20	334	--	47.96	192.21
March	24	4	173.04	--	--	--	--	173.04
April	22	6	94.63	--	--	--	--	94.63
May	23	5	157.46	2.40	48	--	9.12	148.34
June	22	4	202.20	--	78	--	10.92	191.28
July	20	1	66.13	--	30	--	4.20	61.93
August	21	1	53.01	5.75	100	--	19.75	33.26
September	23	5	195.33	--	60	23.20	31.60	163.73
October	25	4	189.47	1.20	30	--	5.40	184.07
November	25	6	141.73	7.45	252	--	42.73	99.00
December	22	4	141.47	1.20	62	--	9.88	131.59
TOTAL	273	55	1880.22	19.20	1134	147.95	325.91	1554.31

\* Miles at 14 cents

A. Gross Salary	=	8540.00
Deductions	=	1720.51
Net Administrative Cost	=	6819.49
B. Total Expenses	=	1880.22
Deductions	=	325.91
Net Administrative Cost	=	1554.31
C. Local Administrative Allowance Received	=	75.00
D. Total Administrative Costs	=	8448.80
(Sum of A, B & C)		





ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 2

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	22.5	6.5	210.03	--	--	128.02	128.02	82.01
February	22.5	4	84.37	--	--	--	0.00	84.37
March	24.5	3	71.20	1.20	22	--	4.06	67.14
April	23	13	134.74	--	--	111.34	111.34	23.40
May	24	3	241.06	1.20	264	--	35.52	205.54
June	23	9	108.94	--	160	13.00	33.80	75.14
July	21	0	--	--	--	--	0.00	0.00
August	7.5	0	--	--	--	--	0.00	0.00
September	21	2	185.59	1.20	245	--	33.05	152.54
October	23.5	4	148.37	1.20	103	--	14.59	133.78
November	24.5	2	216.09	3.60	269	42.05	80.62	135.47
December	20.5	3.5	78.23	--	60	--	7.80	70.43
TOTAL	257.5	50	1478.62	8.40	1123	294.41	448.80	1029.82

\* Miles at 13 cents

A. Gross Salary	_____	=	<u>10,140.00</u>
Deductions	_____	=	<u>1,970.09</u>
Net Administrative Cost	-----	=	<u>8,169.91</u>
B. Total Expenses	_____	=	<u>1,478.62</u>
Deductions	_____	=	<u>448.80</u>
Net Administrative Cost	-----	=	<u>1,029.82</u>
C. Local Administrative Allowance Received	-----	=	<u>220.96</u>
D. Total Administrative Costs	-----	=	<u>9,420.69</u>
			(Sum of A, B & C)



ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 3

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	20	7.5	200.39	--	111	172.90	187.33	13.06
February	20.5	7	56.64	1.20	240	--	32.40	24.24
March	23	6.5	104.74	4.80	364	35.68	87.80	16.94
April	22.5	14	118.71	--	--	118.71	118.71	0.00
May	23	3.5	75.58	1.20	198	20.44	47.38	28.20
June	23.5	7	202.95	1.20	445	106.14	165.19	37.76
July								
August	27	2.5	100.17	--	--	100.17	100.17	0.00
September	23.5	9	199.45	1.20	126	129.71	147.29	52.16
October	22.5	6.5	128.20	3.60	460	41.76	105.16	23.04
November	24	5	84.98	1.20	173	43.35	67.04	17.94
December	18	3.5	56.80	3.60	220	--	32.20	24.60
TOTAL	247.5	72.5	1328.61	18.00	2337	768.86	1090.67	237.94

\* Miles at 13 cents

A. Gross Salary	=	9,995.00
Deductions	=	2,927.83
Net Administrative Cost	=	7,067.17
B. Total Expenses	=	1,328.61
Deductions	=	1,090.67
Net Administrative Cost	=	237.94
C. Local Administrative Allowance Received	=	108.00
D. Total Administrative Costs	=	7,413.11
(Sum of A, B & C)		



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ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 4

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	23	2.5	89.30	--	18	61.48	63.82	25.48
February	22	3	189.86	--	--	146.48	146.48	43.38
March	24.5	7	82.64	--	34	18.55	22.97	59.67
April	21	6	56.60	--	--	27.68	27.68	28.92
May	23	-	80.94	--	--	--	--	80.94
June	23.5	3	88.51	--	--	50.23	50.23	38.28
July	3	-	--	--	--	--	--	0.00
August	16.5	-	6.00	--	--	--	--	6.00
September	22.5	5.5	163.06	--	--	113.15	113.15	49.91
October	26	5	77.22	--	--	43.17	43.17	34.05
November	24	3	124.25	--	--	70.09	70.09	54.16
December	21.5	1	29.24	--	--	10.69	10.69	18.55
TOTAL	250.5	36	987.62	--	52	541.52	548.28	439.34

\* Miles at 13 cents

A. Gross Salary	=	9,675.00
Deductions	=	1,394.01
Net Administrative Cost	=	8,280.99
B. Total Expenses	=	987.62
Deductions	=	548.28
Net Administrative Cost	=	439.34
C. Local Administrative Allowance Received	=	112.40
D. Total Administrative Costs	=	8,832.73
(Sum of A, B & C)		





ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 5

	D A Y S		E X P E N S E A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	26	6	161.97	--	--	148.73	148.73	13.24
February	24	5	155.39	--	--	129.91	129.91	25.48
March	25	9	90.16	--	--	50.34	50.34	39.82
April	23	5	44.17	--	--	--	--	44.17
May	25	1.5	146.87	1.20	50	22.00	29.70	117.17
June	25	1	86.33	--	--	28.97	28.97	57.36
July	18	-	38.79	--	--	--	--	38.79
August	26	-	84.60	--	--	--	--	84.60
September	23	4	120.46	--	--	54.24	54.24	66.22
October	25	1	133.17	--	--	40.42	40.42	92.75
November	25	2	153.02	--	--	75.62	75.62	77.40
December	23	4	160.81	--	--	119.77	119.77	41.04
TOTAL	288	38.5	1375.74	1.20	50	670.00	677.70	698.04

\* Miles at 13 cents

A. Gross Salary	=	9,675.00
Deductions	=	1,293.36
Net Administrative Cost	=	8,381.64
B. Total Expenses	=	1,375.74
Deductions	=	677.70
Net Administrative Cost	=	698.04
C. Local Administrative Allowance Received	=	199.44
D. Total Administrative Costs	=	9,279.12
(Sum of A, B & C)		

# UNITED STATES DEPARTMENT OF AGRICULTURE

## BUREAU OF PLANT INDUSTRY

No.	Name of Plant	1917				1918			
		Jan.	Feb.	Mar.	Apr.	Jan.	Feb.	Mar.	Apr.
1.	Apple	10.00	12.00	15.00	18.00	10.00	12.00	15.00	18.00
2.	Banana	5.00	6.00	7.00	8.00	5.00	6.00	7.00	8.00
3.	Cashew	1.00	1.50	2.00	2.50	1.00	1.50	2.00	2.50
4.	Coconut	2.00	3.00	4.00	5.00	2.00	3.00	4.00	5.00
5.	Guava	3.00	4.00	5.00	6.00	3.00	4.00	5.00	6.00
6.	Jackfruit	4.00	5.00	6.00	7.00	4.00	5.00	6.00	7.00
7.	Lemon	1.50	2.00	2.50	3.00	1.50	2.00	2.50	3.00
8.	Lime	1.00	1.50	2.00	2.50	1.00	1.50	2.00	2.50
9.	Mango	2.50	3.50	4.50	5.50	2.50	3.50	4.50	5.50
10.	Orange	1.20	1.80	2.40	3.00	1.20	1.80	2.40	3.00
11.	Pineapple	3.50	4.50	5.50	6.50	3.50	4.50	5.50	6.50
12.	Plantain	4.50	5.50	6.50	7.50	4.50	5.50	6.50	7.50
13.	Quince	2.00	3.00	4.00	5.00	2.00	3.00	4.00	5.00
14.	Rambutan	3.00	4.00	5.00	6.00	3.00	4.00	5.00	6.00
15.	Sapota	2.00	3.00	4.00	5.00	2.00	3.00	4.00	5.00
16.	Starfruit	1.50	2.00	2.50	3.00	1.50	2.00	2.50	3.00
17.	Tamarind	1.00	1.50	2.00	2.50	1.00	1.50	2.00	2.50
18.	Watermelon	2.00	3.00	4.00	5.00	2.00	3.00	4.00	5.00
19.	Xigua	1.50	2.00	2.50	3.00	1.50	2.00	2.50	3.00
20.	Yam	3.00	4.00	5.00	6.00	3.00	4.00	5.00	6.00

BUREAU OF PLANT INDUSTRY

1. Name of Plant

2. Name of Variety

3. Name of Grower

4. Name of Agent

5. Name of District

6. Name of State

7. Name of Country

8. Name of Continent

9. Name of Hemisphere

10. Name of World

ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 6

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	25.5	4	96.23	--	--	43.66	43.66	52.57
February	19.5	4	201.24	--	--	154.52	154.52	46.72
March	27	11.5	73.50	--	--	23.72	23.72	49.78
April	22	2	104.62	--	--	11.86	11.86	92.76
May	24.5	1.5	116.35	--	--	11.86	11.86	104.49
June	25	1	153.56	-- -	--	11.86	11.86	141.70
July	11.5	-	--	--	--	--	--	0.00
August	23	-	--	--	--	--	--	0.00
September	26	-	127.99	--	--	--	--	127.99
October	25	3	205.50	--	--	72.25	72.25	133.25
November	25.5	-	82.98	--	--	--	--	82.98
December	21	2	102.06	--	--	23.72	23.72	78.34
TOTAL	275.5	29	1264.03	-- -	--	353.45	353.45	910.58

\* Miles at 13 cents

A. Gross Salary	=	10,140.00
Deductions	=	1,060.19
Net Administrative Cost	=	9,079.81
B. Total Expenses	=	1,264.03
Deductions	=	353.45
Net Administrative Cost	=	910.45
C. Local Administrative Allowance Received	=	1,183.98
D. Total Administrative Costs	=	11,174.24
(Sum of A, B & C)		





ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 7

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	21.5	3	96.39	--	--	51.81	51.81	44.58
February	20.5	2	59.25	--	--	--	--	59.25
March	22.5	4	125.92	--	--	85.17	85.17	40.75
April	17	5	101.51	--	--	45.84	45.84	55.67
May	25	9	113.71	--	--	--	--	113.71
June	21	3	175.09	--	--	72.78	72.78	102.31
July	23	-	19.59	--	--	--	--	19.59
August	23	-	22.29	--	--	--	--	22.29
September	19.5	4	217.16	--	--	114.13	114.13	103.03
October	22	3	123.28	--	--	60.87	60.87	62.41
November	22	-	115.63	--	--	--	--	115.63
December	17	1	105.74	--	--	45.14	45.14	60.60
TOTAL	254	34	1275.56	--	--	475.74	475.74	799.82

\* Miles at 13 cents

A. Gross Salary	=	8,980.00
Deductions	=	1,202.04
Net Administrative Cost	=	7,777.96
B. Total Expenses	=	1,275.36
Deductions	=	475.74
Net Administrative Cost	=	799.82
C. Local Administrative Allowance Received	=	265.00
D. Total Administrative Costs	=	8,842.78
(Sum of A, B & C)		





APPENDIX G (continued)  
ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 8

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	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	22.	3.5	113.03	--	--	37.50	37.50	75.53
February	21	3.5	159.71	--	--	114.55	114.55	45.16
March	24.5	12.5	85.50	--	--	10.16	10.16	75.34
April	16	-	72.93	--	--	--	--	72.93
May	22.5	1	177.42	--	--	13.20	13.20	164.22
June	22	1	94.34	--	--	--	--	94.34
July	14	-	24.00	--	--	--	--	24.00
August	17	-	32.91	--	--	--	--	32.91
September	21	4	87.84	--	--	--	--	87.84
October	22	3	100.65	--	--	8.48	8.48	92.17
November	23	2	169.72	--	--	--	--	169.72
December	18.5	1	155.06	--	--	17.32	17.32	137.74
TOTAL	243.5	31.5	1273.11	--	--	201.21	201.21	1071.90

\* Miles at 13 cents

A. Gross Salary	=	10,140.00
Deductions	=	1,311.75
Net Administrative Cost	=	8,828.25
B. Total Expenses	=	1,273.11
Deductions	=	201.21
Net Administrative Cost	=	1,071.90
C. Local Administrative Allowance Received	=	39.74
D. Total Administrative Costs	=	9,939.89
(Sum of A, B & C)		





ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 9

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	23	6	179.26	--	--	112.80	112.80	66.46
February	23	8	143.18	--	--	96.50	96.50	46.68
March	23.5	5	153.34	--	--	115.80	115.80	37.54
April	20.5	-	97.42	--	--	--	--	97.42
May	23.5	2	176.18	--	--	35.16	35.16	141.02
June	24	2	185.18	--	--	60.64	60.64	124.54
July	11	2	60.42	--	--	13.36	13.36	47.06
August	18	-	84.06	--	--	--	--	84.06
September	20.5	1	167.73	--	--	16.80	16.80	150.93
October	23	3	147.22	--	--	31.03	31.03	116.19
November	22	4	132.66	--	--	46.87	46.87	85.79
December	18	2	84.81	--	--	--	--	84.81
TOTAL	250	35	1611.46	--	--	528.96	528.96	1082.50

\* Miles at 13 cents

A. Gross Salary	=	10,140.00
Deductions	=	1,419.60
Net Administrative Cost	=	8,720.40
B. Total Expenses	=	1,611.46
Deductions	=	528.96
Net Administrative Cost	=	1,082.50
C. Local Administrative Allowance Received	=	184.98
D. Total Administrative Costs	=	9,987.88
(Sum of A, B & C)		

# REPORT ON THE PROGRESS OF THE WORK DURING THE YEAR 1900

No.	Name	Amount										Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
1	John Doe	100	100	100	100	100	100	100	100	100	100	1200
2	Jane Smith	200	200	200	200	200	200	200	200	200	200	2400
3	Robert Brown	300	300	300	300	300	300	300	300	300	300	3600
4	Mary White	400	400	400	400	400	400	400	400	400	400	4800
5	James Black	500	500	500	500	500	500	500	500	500	500	6000
6	Elizabeth Green	600	600	600	600	600	600	600	600	600	600	7200
7	William Hall	700	700	700	700	700	700	700	700	700	700	8400
8	Anna King	800	800	800	800	800	800	800	800	800	800	9600
9	Charles Lee	900	900	900	900	900	900	900	900	900	900	10800
10	Thomas Young	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	12000
11	Elizabeth Clark	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	13200
12	John Adams	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	14400
13	Mary Baker	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	15600
14	James Wilson	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	16800
15	Elizabeth Davis	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	18000
16	William Miller	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	19200
17	Anna Moore	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	20400
18	Charles Taylor	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	21600
19	Thomas Anderson	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	22800
20	Elizabeth Scott	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	24000
21	John Walker	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	25200
22	Mary Lewis	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	26400
23	James Hill	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300	27600
24	Elizabeth King	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	28800
25	William Wright	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	30000
26	Anna Green	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	31200
27	Charles Adams	2700	2700	2700	2700	2700	2700	2700	2700	2700	2700	32400
28	Thomas Baker	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	33600
29	Elizabeth Miller	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	34800
30	John Moore	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	36000

Total 360000

The above table shows the progress of the work during the year 1900. The total amount of work done was 360,000 units. The work was done by 30 persons, each of whom worked for a different number of months. The work was done in a regular and systematic manner, and the results were very satisfactory.

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ANALYSIS SHEET - SUPERINTENDENT'S SALARY AND EXPENSES  
FOR SCHOOL AUTHORITY REPRESENTING DECILE 10

	D A Y S		E X P E N S E   A C C O U N T					Net Expense to School Authority
	Total	Charge to Department	Gross Expenses	D e d u c t i o n s				
				Meals	#Miles	Dep't Trips	Total Deductions	
January	23	4	79.86	--	--	33.00	33.00	46.86
February	21.5	3	76.93	--	--	28.72	28.72	48.21
March	24.5	10.5	58.70	--	--	31.49	31.49	27.21
April	20	5	103.04	--	--	--	--	103.04
May	23	3	240.84	4.80	220	89.20	122.60	118.24
June	23	5	189.49	1.20	30	49.83	54.93	134.56
July	14	-	--	--	--	--	--	0.00
August	15	2	43.15	--	--	--	--	43.15
September	20.5	6.5	194.34	2.40	132	91.68	111.24	83.10
October	22.5	4.5	221.49	1.20	70	112.37	122.67	98.82
November	25.5	7.5	131.62	1.20	80	8.15	19.75	111.87
December	19	4	97.37	--	--	43.02	43.02	54.35
TOTAL	251.5	55	1436.83	10.80	532	487.46	567.42	869.41

\* Miles at 13 cents

A. Gross Salary	=	10,140.00	
Deductions	=	2,217.49	
Net Administrative Cost	=	7,922.51	
B. Total Expenses	=	1,436.83	
Deductions	=	567.42	
Net Administrative Cost	=	869.41	
C. Local Administrative Allowance Received	=	295.66	
D. Total Administrative Costs	=	9,087.58	
			(Sum of A, B & C)

[illegible][illegible]

APPENDIX H

APPENDIX H



APPENDIX H  
COST PER UNIT OF NEED

DECILE 1

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	182	\$6,174.71	\$20.46*
B	324	\$2,660.84	\$24.63*
C	301	\$6,366.18	\$21.15
D	102	\$ 659.67	\$ 6.47
E	67	\$ 133.33	\$ 5.97**
F			
G			
H			
I			
J			
K			
L			
M	To superintendent of schools	\$ 75.00	
X			
TOTAL	976	\$15,994.73	
ADD COST OF SUPERINTENDENT		\$ 8,448.80	
TOTAL		\$24,443.53	\$25.04

\*These two schools were under one principal for eight months. The unit cost stated are adjusted accordingly.

\*\*School E included in division for September term only. Unit cost is adjusted accordingly.





APPENDIX H  
COST PER UNIT OF NEED

DECILE II

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	95	\$ 400.00	\$ 4.21
B	41	\$ 150.00	\$ 3.66
C	354	\$7,357.09	\$20.78
D	62	\$ 200.00	\$ 3.23
E	35	150.00	4.29
F	127	750.00	5.91
G	26	50.00	\$ 5.77*
H	191	\$4,478.48	\$23.45
I	183	\$1,611.05	\$ 8.80
J	31	\$ 150.00	8.84
K			
L			
M	To principals' association	59.00	
X			
TOTAL	1145	\$15,355.62	\$13.41
ADD COST OF SUPERINTENDENT		9,420.69	
TOTAL		\$24,776.31	\$21.64

\*School had a principal for a four month period only. The unit cost \$5.77 is projected for the year.



APPENDIX H  
COST PER UNIT OF NEED

DECILE III

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	320	\$ 7,105.83	\$22.21
B	775	\$10,838.33	\$13.99
C	230	\$ 4,668.33	\$20.30
D			
E			
F			
G			
H			
I			
J			
K			
L			
M			
X			
TOTAL	1325	\$22,612.49	\$17.07
ADD COST OF SUPERINTENDENT		\$ 7,413.11	
TOTAL		\$30,025.60	\$22.66

THE  
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

1. NAME OF LAND		2. LOCATION		3. DATE	
4. AREA		5. OWNER		6. COMMENTS	
7. DESCRIPTION		8. SURVEY		9. NOTES	
10. MAP		11. PLAN		12. SPECIFICATIONS	
13. MATERIALS		14. LABOR		15. COST	
16. CONTRACT		17. AGREEMENT		18. SIGNATURE	
19. WITNESS		20. APPROVAL		21. REVIEW	
22. RECORD		23. INDEX		24. SUMMARY	
25. CONCLUSION		26. RECOMMENDATION		27. ACTION	
28. FOLLOW-UP		29. EVALUATION		30. REPORT	
31. APPENDIX		32. GLOSSARY		33. REFERENCES	
34. BIBLIOGRAPHY		35. INDEX		36. SUMMARY	
37. CONCLUSION		38. RECOMMENDATION		39. ACTION	
40. FOLLOW-UP		41. EVALUATION		42. REPORT	
43. APPENDIX		44. GLOSSARY		45. REFERENCES	
46. BIBLIOGRAPHY		47. INDEX		48. SUMMARY	
49. CONCLUSION		50. RECOMMENDATION		51. ACTION	
52. FOLLOW-UP		53. EVALUATION		54. REPORT	
55. APPENDIX		56. GLOSSARY		57. REFERENCES	
58. BIBLIOGRAPHY		59. INDEX		60. SUMMARY	
61. CONCLUSION		62. RECOMMENDATION		63. ACTION	
64. FOLLOW-UP		65. EVALUATION		66. REPORT	
67. APPENDIX		68. GLOSSARY		69. REFERENCES	
70. BIBLIOGRAPHY		71. INDEX		72. SUMMARY	
73. CONCLUSION		74. RECOMMENDATION		75. ACTION	
76. FOLLOW-UP		77. EVALUATION		78. REPORT	
79. APPENDIX		80. GLOSSARY		81. REFERENCES	
82. BIBLIOGRAPHY		83. INDEX		84. SUMMARY	
85. CONCLUSION		86. RECOMMENDATION		87. ACTION	
88. FOLLOW-UP		89. EVALUATION		90. REPORT	
91. APPENDIX		92. GLOSSARY		93. REFERENCES	
94. BIBLIOGRAPHY		95. INDEX		96. SUMMARY	
97. CONCLUSION		98. RECOMMENDATION		99. ACTION	
100. FOLLOW-UP		101. EVALUATION		102. REPORT	



APPENDIX H  
COST PER UNIT OF NEED

DECILE IV

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	552	\$ 9,106.17	\$16.50
B	541	\$11,466.50	\$21.20
C	316	\$ 7,415.85	\$23.47
D	333	\$ 6,226.30	\$18.70
E			
F			
G			
H			
I			
J			
K			
L			
M	To principals' association	\$ 200.00	
X			
TOTAL	1742	\$34,414.82	\$19.76
ADD COST OF SUPERINTENDENT		\$ 8,832.73	
TOTAL		\$43,247.55	\$24.83

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APPENDIX H  
COST PER UNIT OF NEED

DECILE  V

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	215	\$ 2,394.17	\$11.14
B	340	\$ 7,053.33	\$20.75
C	43	\$ 125.00	\$ 2.91
D	294	\$ 7,720.83	\$26.26
E	347	\$ 1,997.50	\$ 5.76
F	289	\$ 3,045.50	\$10.53
G	457	\$ 7,761.55	\$16.98
H			
I			
J			
K			
L			
M	To principals' association	120.00	
X			
TOTAL	1985	\$30,217.88	\$15.22
ADD COST OF SUPERINTENDENT		\$ 9,279.12	
TOTAL		\$39,497.00	\$19.90



APPENDIX H  
COST PER UNIT OF NEED

DECILE VI

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	594	\$15,700.41	\$26.43
B	412	\$12,632.72	\$30.66
C	198	\$ 4,200.91	\$21.22
D	479	\$ 9,991.42	\$20.86
E	93	\$ 500.00	\$ 5.38
F	575	\$ 9,814.44	\$17.07
G			
H			
I			
J			
K			
L			
M			
X		\$12,083.36	
TOTAL	2351	\$64,923.26	\$27.62
ADD COST OF SUPERINTENDENT		\$11,174.24	
TOTAL		\$76,097.50	\$32.37





APPENDIX H  
COST PER UNIT OF NEED

DECILE VII

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	258	\$ 6,752.08	\$26.20
B	696	\$10,419.24	\$14.97
C	168	\$ 1,624.17	\$ 9.67
D	118	\$ 1,756.33	\$14.88
E	356	\$ 6,691.25	\$18.80
F	115	\$ 1,356.67	\$11.80
G	100	525.00	5.25
H	600	\$12,024.00	\$20.04
I			
J			
K			
L			
M			
X		\$ 6,541.58	
TOTAL	2411	\$47,700.32	\$19.88
ADD COST OF SUPERINTENDENT		\$ 8,842.78	
TOTAL		\$56,543.10	\$23.45



APPENDIX H  
COST PER UNIT OF NEED

DECILE VIII

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	83	\$ 1,043.33	\$12.57
B	319	\$ 5,263.89	\$16.50
C	420	\$ 6,400.84	\$15.24
D	202	\$ 4,137.60	\$20.48
E	102	\$ 1,125.47	\$11.03
F	284	\$ 6,064.71	\$24.47
G	129	\$ 1,747.00	\$13.54
H	161	\$ 2,942.68	\$18.28
I	298	\$ 4,380.00	\$14.70
J	253	\$ 5,299.27	\$20.95
K	226	\$ 4,684.59	\$20.73
L	236	\$ 2,894.16	\$12.26
M			
X		\$ 3,440.48*	
TOTAL	2713	\$50,323.92	\$18.55
ADD COST OF SUPERINTENDENT		\$ 9,939.89	
TOTAL		\$60,263.91	\$22.21

\*Actual costs for September term.





APPENDIX H  
COST PER UNIT OF NEED

DECILE IX

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	523	\$ 8,192.49	\$15.66
B	420	\$ 7,414.67	\$17.65
C	680	\$11,135.43	\$16.30
D	1121	\$19,673.75	\$17.55
E	747	\$13,133.33	\$17.58
F	72	\$ 450.00	\$ 6.25
G	57	\$ 450.00	\$ 7.89
H	90	\$ 600.00	\$ 6.67
I	89	\$ 600.00	\$ 6.74
J			
K			
L			
M			
X			
TOTAL	3799	\$61,649.67	\$16.23
ADD COST OF SUPERINTENDENT		\$ 9,987.88	
TOTAL		\$71,637.55	\$18.88



APPENDIX H  
COST PER UNIT OF NEED

DECILE X

SCHOOL	NUMBER OF PUPILS	COST OF LOCAL ADMINISTRATORS	COST PER PUPIL
A	862	\$17,343.38	\$20.12
B	476	\$ 8,498.83	\$17.85
C	110	\$ 566.67	\$ 5.15
D	97	\$ 450.00	\$ 4.64
E	1213	\$18,092.09	\$14.92
F	418	\$10,483.66	\$25.08
G	381	\$11,967.72	\$30.86
H	157	\$ 783.33	\$ 4.99
I	492	\$11,824.44	\$24.03
J			
K			
L			
M			
X		\$ 6,388.30	
TOTAL	4206	\$86,398.42	\$20.54
ADD COST OF SUPERINTENDENT		\$ 9,087.58	
TOTAL		\$95,486.00	\$22.70

GENERAL INFORMATION			
NAME	DATE	TIME	PLACE
1. NAME	1. DATE	1. TIME	1. PLACE
2. NAME	2. DATE	2. TIME	2. PLACE
3. NAME	3. DATE	3. TIME	3. PLACE
4. NAME	4. DATE	4. TIME	4. PLACE
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## APPENDIX I





APPENDIX I COST OF ADMINISTRATION PER SCHOOL ACCORDING TO SIZE AND CLASSIFICATION

Type of School	SIZE OF SCHOOL									
	2 - 7	8 - 12	13 - 17	18 - 22	23 - 27	28 - 32	33 plus			
	School Number	School Number	School Number	School Number	School Number	School Number	School Number	Costs	Costs	Costs
Elementary	1E	5.97	1B	24.63						
	9F	6.25	5E	5.76						4
-----										
Elementary-	1D	6.47								
Junior	2B	3.66								
High	2D	3.23								
	2E	4.29								
	2G	1.92								
	2J	4.84							3B	13.99
	5C	2.91								
	7C	9.67							7B	14.97
	7D	14.88								
	7F	11.80								
	8A	12.57								
	8E	11.03	8L	12.26						
-----										

# REPORT OF THE DIRECTOR, BUREAU OF THE ARMY, ON THE PROGRESS OF THE WORK DURING THE YEAR 1900

1901

## GENERAL STATEMENT

REPORT	1 - 31	32 - 61	62 - 91	92 - 121	122 - 151	152 - 181	182 - 211	212 - 241	242 - 271	272 - 301	302 - 331	332 - 361	362 - 391	392 - 421	422 - 451	452 - 481	482 - 511	512 - 541	542 - 571	572 - 601	602 - 631	632 - 661	662 - 691	692 - 721	722 - 751	752 - 781	782 - 811	812 - 841	842 - 871	872 - 901	902 - 931	932 - 961	962 - 991	1000
REPORT	1 - 31	32 - 61	62 - 91	92 - 121	122 - 151	152 - 181	182 - 211	212 - 241	242 - 271	272 - 301	302 - 331	332 - 361	362 - 391	392 - 421	422 - 451	452 - 481	482 - 511	512 - 541	542 - 571	572 - 601	602 - 631	632 - 661	662 - 691	692 - 721	722 - 751	752 - 781	782 - 811	812 - 841	842 - 871	872 - 901	902 - 931	932 - 961	962 - 991	1000

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APPENDIX I (Continued)

SIZE OF SCHOOL

Type of School	2 - 7		8 - 12		13 - 17		18 - 22		23 - 27		28 - 32		33 plus	
	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs
Elementary-	8G	13.54												
Junior	9G	7.89												
High	9H	6.67												
	9I	6.74												
	10C	5.15												
	10D	4.64												
Elementary-	2A	4.21	2H	23.45	1C	21.15	5G	16.98	4A	16.50				
	2F	5.91	2I	8.80	2C	20.78	6B	30.66	4B	21.20				
	6E	5.38	3C	20.30	4C	23.47	8C	15.24	6A	26.43				
Junior	7G	5.25	5A	11.14	4D	18.70	9B	17.65	6D	20.86				
	8H	18.28	5F	10.53	5B	20.75	10B	17.85	6F	17.07				
Senior	10H	4.99	6C	21.22	7E	18.88	10F	25.08	7H	20.04			9D	17.55
High			8D	20.48	8B	16.50	10I	24.03	9A	15.66	9C	16.30	9E	17.58
			8J	20.95	8F	24.47							10A	20.12
			8K	20.73	8I	14.70							10E	14.92
					10G	30.86								
														44

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THE UNIVERSITY OF CHICAGO

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Figure 1. The effect of the concentration of the polymer solution on the morphology of the polymer film. The polymer solution was prepared by dissolving 0.1 g of polymer in 10 mL of solvent. The polymer solution was spin-coated on a glass substrate at 1000 rpm for 30 s. The polymer film was then dried at 100 °C for 24 h. The morphology of the polymer film was observed by scanning electron microscopy (SEM). The images show the effect of the concentration of the polymer solution on the morphology of the polymer film. The images show that the morphology of the polymer film changes from a smooth surface to a rough surface as the concentration of the polymer solution increases.

21



APPENDIX I (Continued)

SIZE OF SCHOOL

2 - 7      8 - 12      13 - 17      18 - 22      23 - 27      28 - 32      33 plus

Type of School	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	School Number	Costs	Total
----------------	---------------	-------	---------------	-------	---------------	-------	---------------	-------	---------------	-------	---------------	-------	-------

Junior-	1A	20.46	5D	26.26	3A	22.21							3
---------	----	-------	----	-------	----	-------	--	--	--	--	--	--	---

Senior

Senior 7A 26.20

Totals	27		12	12	8	8	2	4	73
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Note: The schools are identified by a numeral and a letter. The numeral refers to the decile which the school authority represents.

Note: To facilitate typing of this Appendix, Arabic numerals rather than Roman numerals were used. Thus school "1A" is school A of decile one.

Amount of acid

(percentage of) Chlorine

0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00

0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00

0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00

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## APPENDIX J

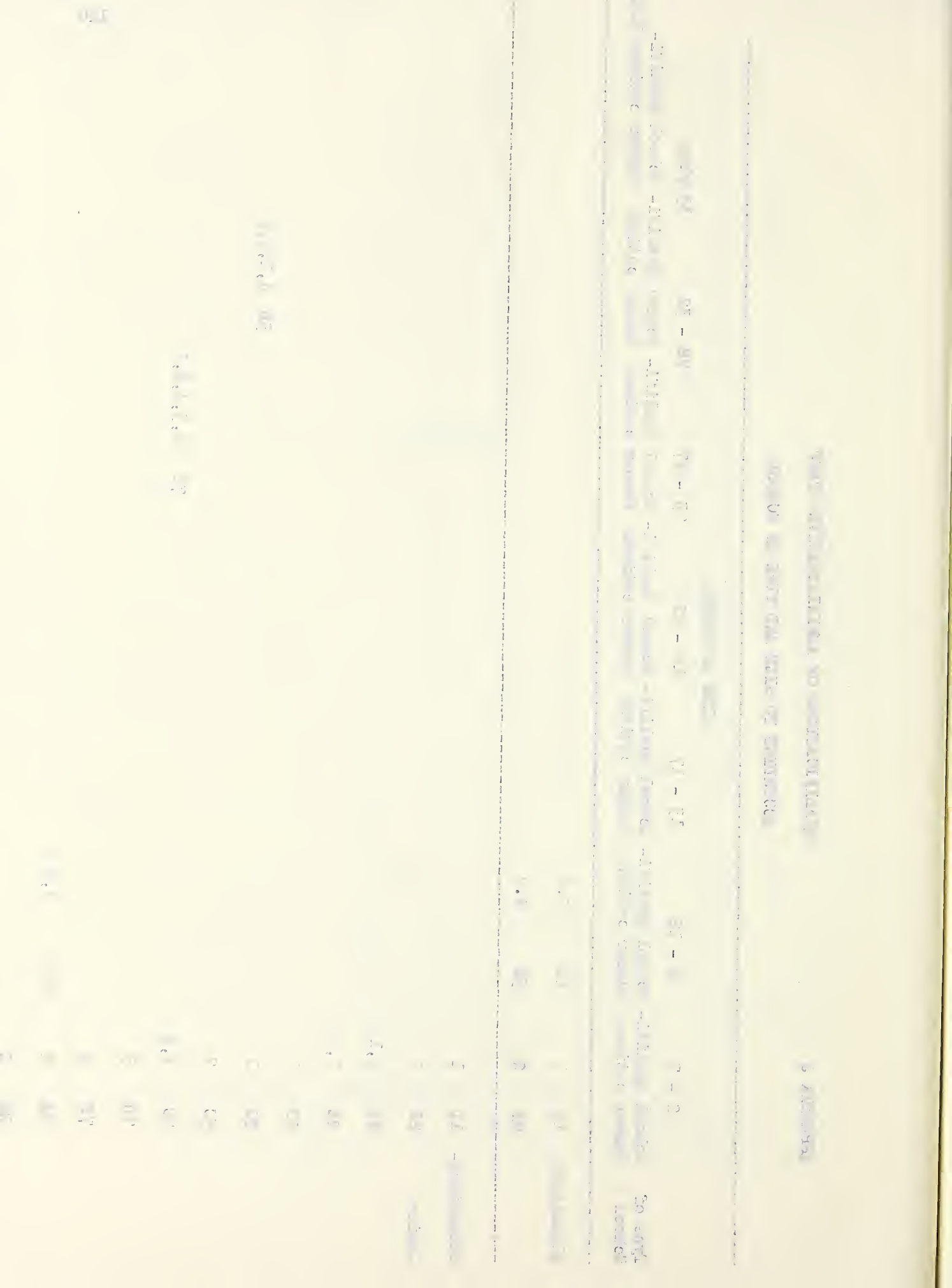


## QUALIFICATIONS OF ADMINISTRATIVE STAFF

ACCORDING TO SIZE AND TYPE OF SCHOOL

110





APPENDIX J (Continued)

SIZE OF SCHOOL

Type of School	SIZE OF SCHOOL							Total
	2 - 7	8 - 12	13 - 17	18 - 22	23 - 27	28 - 32	33 plus	
	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	
8G	3,2							
9G	2,1							
9H	1							
9I	2							
10C	2,3							
10D	1							
<hr/>								
Elementary - 2A	5	2H 5,4,5	1C 3,4,2	5G 5,4	4A 6,6			
2F	1,2,4	2I 4,3	2C 5,4	6B 5,4,1	4B 6,4,5			
6E	2	3C 4,1	4C 4,4	8C 4,4	6A 5,4,1			
Junior - 7G	4	5A 4,4,5	4D 5,3	9B 4,3,1	6D 5,4,3,2			
8H	6,4	5F 4,4	5B 4,4	10B 4,3,3,3	6F 4,4,1,1			
10H	4	6C 5,4,2,2	7E 6,1	10F 6,4,4,1	7H 4,6,1,2			
Senior		8D 5,1	8B 4,4,1	10I 4,5	9A 4,4	9C 4,4,2	9D 4,3,5,6	
		8J 4,4	8F 3,2,2				9E 6,4	



APPENDIX J (Continued)

SIZE OF SCHOOL

2 - 7		8 - 12		13 - 17		18 - 22		23 - 27		28 - 32		33 plus	
Type of School	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	School Qualifi- Number cations	Total
	8K 4,4	8I 4,4,4	10G 4,4,1,1	10A 6,5,3,1	10E 5,4,4,1,1,2								
Junior- Senior	1A 3,1	5D 6,5,5	3A 4,3										7
Senior		7A 4,4											2
Totals	37	28	31	22	25	8	16	168					





APPENDIX K



Type of School	SIZE OF SCHOOL									
	2 - 7		8 - 12		13 - 17		18 - 22		23 - 27	
	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week
Elementary	1E	0	1B	24, 10						
	9F	0	5E	4, 0						
Elementary -	1D	2								
Junior	2B	0								
	2D	0, 0								
	2E	0, 0								
	2G	0								
	2J	0							3B	40, 1, 3, 0
	5C	0								
	7C	5, 5							7B	25, 9, 9, 0, 0
	7D	8								
	7F	4								
	8A	4								
	8E	4								

0.1, 0.2, 0.3

0.1, 0.2, 0.3

0.1, 0.2, 0.3

0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0

0.1, 0.2, 0.3

0.1, 0.2, 0.3

0.1, 0.2, 0.3

APPENDIX K (Continued)

SIZE OF SCHOOL

Type of School	2 - 7		8 - 12		13 - 17		18 - 22		23 - 27		28 - 32		33 plus	
	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week
Elementary-	8G	4,4	8L	4,4										
Junior	9G	0,0												
	9H	0												
	9I	0												
	10C	0												
	10D	0,0												
-----														
Elementary-	2A	0	2H	11,15,2	IC	16,7,2	5G	15,13	4A	24,9				
Junior -	2F	0,0,0	2I	6,0	2C	9,7	6B	15,12,40	4B	25,9,9				
Senior	6E	0	3C	12,4	4C	21,10	8C	17,7	6A	30,16,40				
	7G	0	5A	5,0,2	4D	17,10	9B	19,10	6D	21,15,10,0				
	8H	7,4*	5F	4,4	5B	19,9	10B	26,4,7	6F	16,12,0,40				
	10H	0	6C	15,4	7E	25,10	10F	19,14,14,18	7H	26,12,8,0				
			8D	12,7*	8B	12,5,4	10I	15,12,9,13	9A	25,8	9C	23,14,8	9A	28,8,18,24
			8J	10,3	8F	13,5,20							9E	35,16





APPENDIX K (Continued)

SIZE OF SCHOOL

Type of School	2 - 7		8 - 12		13 - 17		18 - 22		23 - 27		28 - 32		33 plus	
	Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week	School Number	Periods Per Week
Elementary-			8K	11,6	8I	11,7,7							10A	32,16,3,40
Junior-					10G	21,27,29,0							10E	38,10,0,0,0,0
Senior														
Junior-	1A	19.8			5D	20,20,10	3A	19,16						
Senior														
Senior					7A	20,6								

\*Based on a forty-five period week.

Note: The first figure quoted is the administrative time of the principal in the December term.















**B29817**